FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

A Reuben H. Donnelley Publication

San Francisco fire fighter assists guest down ladder during fatal Thomas Hotel fire *(see story page 196)*
—photo courtesy The San Francisco Examiner

IMPACT PROTECTION!

Heavy, flaming debris smashing over fire fighters' heads is among hazards that top the list of most frequent fire department injuries.

Knowing this, it's easy to see why our engineers have designed HARDBOILED® fire helmets to insure maximum impact protection, with minimum impact transmission. Even when exposed to temperatures as low as − 60° F. or as high as + 2,400° F., these tough fiber-glass shells surpass Federal and State Specifications for head protection. Yet, complete with either POWER-BLOC® or standard suspension, they weigh only 22 ounces.

We can safely say, "Bullard fire helmets are the best impact protection a fireman can use. Try it and you'll see that no fire helmet surpasses Bullard...in comfort, safety and economy."

BULLARD
INDUSTRIAL SAFETY EQUIPMENT

Write for fire department catalog.

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"We are keeping our promise!"

Your response to the introduction of the FEDERAL PA-10 INTERCEPTOR Electronic Siren was wonderful! It *does better*—anything that other electronic sirens can do and—*What's more, it does more things!*

We promised you a lower priced electronic siren when a good performing, reliable unit could be produced and sold for a better price.

Here—as promised, is the

DIRECTOR
MODEL PA-5

This electronic siren isn't designed to supplant the INTERCEPTOR but will give you satisfactory, dependable service *where budget is a factor!*

For full information about *this new* electronic siren, the *DIRECTOR*, write for Bulletin #327

Specially designed for the Fire Chief!

—is the CP24 streamlined, chrome plated speaker with its optional swivel bracket. Mounted in the roof of your car, at finger-tip control, you can beam your voice in any direction over 360 degrees and tilt the speaker upward to beam your instructions at men on ladders or roof tops. It can be used with either the PA5 or the PA10 models.

FEDERAL SIGN and SIGNAL Corporation

13602 S. Western Ave., Blue Island, Ill.

FIRE
ENGINEERING

VOL. 114 . MARCH, 1961 NO. 3

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Best Answer to Quest

The drillmaster of a West Coast volunteer fire department recently wrote to us that "the responsible members of the . . . department have, for some time past, been keeping a rather close analysis on the format and content of various periodicals dealing with the suppression of fire. It is our opinion that FIRE ENGINEERING best affords the qualities in this periodical that we are seeking, and we would appreciate your sending to us the necessary information for entering a subscription . . ."

Naturally, we rejoice in this most recent tribute to FIRE ENGINEERING's continued leadership in the fire service. It is another example that the slogan which appears on our cover, "The Journal of the Fire Protection Profession since 1877," is not an empty boast.

Often we have heard veteran chiefs describe FIRE ENGINEERING as "The Bible of the Fire Service." They have told us that from their early days in the service they have read it faithfully and credit their advancement, in part, to it. Every publisher prizes most highly the accolades of those for whom he is publishing—his readers or potential readers. That is why we appreciate equally an informal letter from the drillmaster of a West Coast volunteer fire department.

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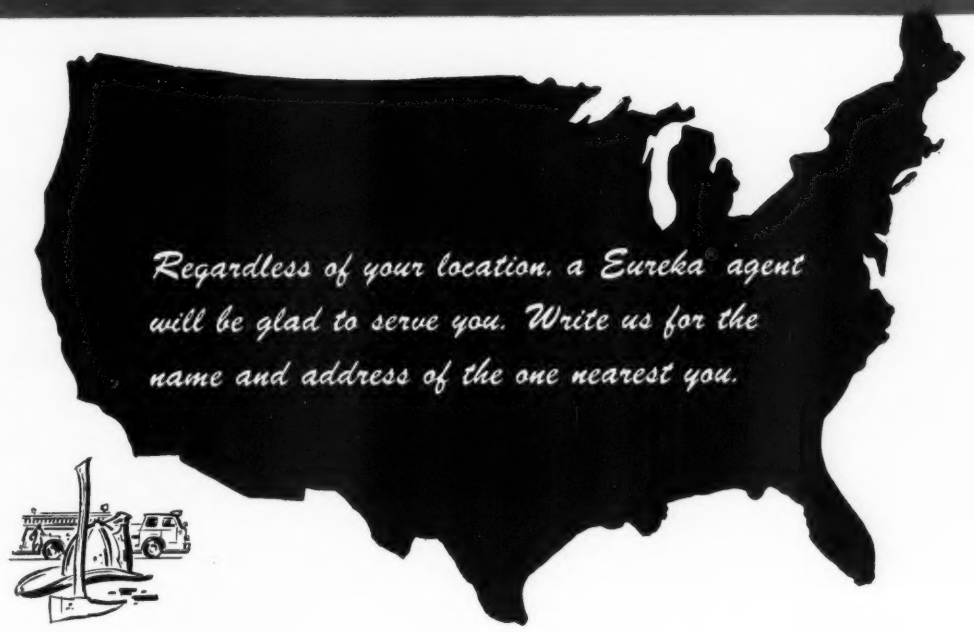
PICK YOUR CITY,

TOWN OR VILLAGE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Choose from Barton-American

...pumps to meet all your needs...and meet them best

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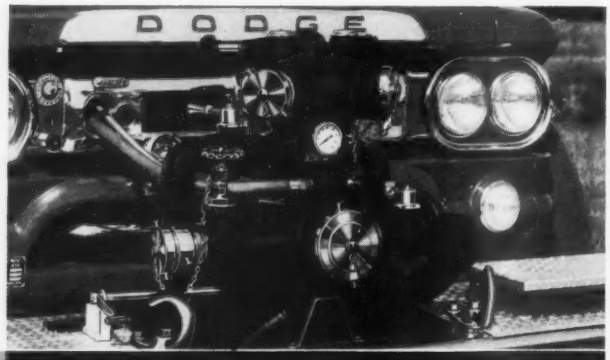
FRONT-MOUNTED PUMPS
500-750 GPM CLASS "A" RATING

Ample pressure for fog gun operation. Fights fires "on the move".

FULL DETAILS IN BULLETIN 8330-C



TYPE DMA

TWO-STAGE MIDSHIP PUMPS
500-750 & 1000 GPM CLASS "A" RATING

High pressure for fog gun service.
2 Independent pumps. 3 Pressure & Volume selections.

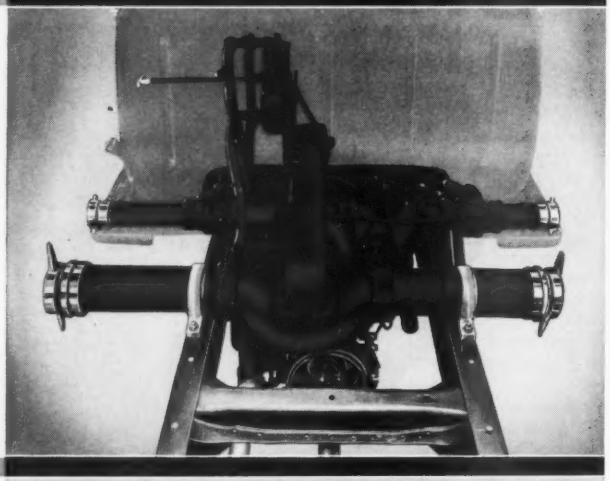
FULL DETAILS IN BULLETIN 8733

TYPE DMB

TWO, THREE & FOUR STAGE OPERATION

Pressure to 850 Lbs.

FULL DETAILS IN BULLETIN 8734



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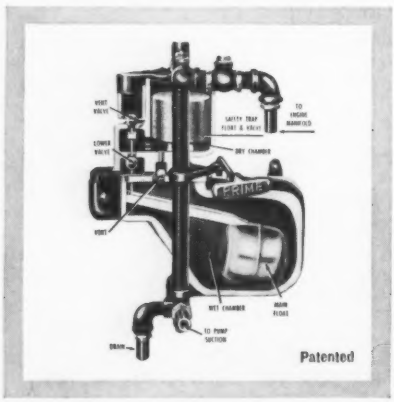
PORTABLE PUMP
200 GPM & UP

Pressure to 90 Lbs.
Weighs only 125 Lbs.
A versatile unit for any department.

FULL DETAILS IN BULLETIN 8120



. . . and the famous Barton-American ENGINE VACUUM PRIMER

REQUIRES NO OIL, NO ADJUSTING, NO MAINTENANCE

Always operates with like-new efficiency—not affected by engine wear.
Employs a simple, trouble-proof principle.
Completely frost-proof. Always dependable.

FULL DETAILS IN BULLETIN 8733

SEE YOUR NEAREST AMERICAN FIRE PUMP DEALER

AMERICAN FIRE PUMP COMPANY

P. O. Box 219-A
BATTLE CREEK, MICHIGAN, U. S. A.

Hose that goes to blazes shouldn't freeze up

New B.F.Goodrich fire hose sticks to its job but not to the pavement

IF you've ever wrestled with heavy, waterlogged hose or had it freeze to the pavement, you'll really appreciate the advantages of the new Diamond fire hose, by B.F.Goodrich.

The new *all-Dacron* jacket on Diamond hose is what makes the difference. It absorbs far less water than cotton-jacketed hose, which means that it stays light and flexible, dries fast, is less likely to freeze in cold weather. Mildew has no effect on it. Oil, grease and chemicals can't hurt it.

The all-Dacron jacket also makes BFG Diamond fire hose light weight—yet so strong it will outwear ordinary hose many times over. It can be dragged over rough pavement, even raspy ice, without snagging or tearing. It's an easier-handling hose, gets into action faster—and because it's so flexible, many more feet of it can be racked on the truck bed.

A special rubber compound used for the tube stays elastic throughout the life of the hose. Coupling has Koroseal swivel gaskets that seal with hand tightening, never have to be replaced.

To get all the facts on this big improvement in fire hose, see your BFG distributor or write *B.F.Goodrich Industrial Products Co., Department M-956, Akron 18, Ohio.*

B.F.Goodrich

FIRE HOSE

Beefed up for hardest

Onan builds every plant as if a life depended on it. We never know the ultimate use of an Onan generator when it comes off the line, but before the Performance Certified tag is attached, we *do know* the plant could be depended upon in *any* emergency. Whether your need is for emergency lighting or electricity for an iron lung, why settle for second best? Before you buy any electric plant, see your local Onan distributor or dealer.

Stellite coated exhaust valves and valve seats. One of toughest alloys known. Gives you up to 300% longer valve life than uncoated valves. It's the important details like this that make Onan more economical in the long run.

Exacting standards govern manufacture—years of specialized experience and extensive testing facilities control the quality of Onan Power Plants. Over 1000 different types and sizes of plants are produced by Onan.

use...even abuse

Onan electric plant still delivers full power after 12,197 hour test—equal to 487,888 miles

A grueling endurance test that lasted one year, nine months and 12 days could not stop Onan test plant #1068. Onan engineers used this production-built unit for an endurance run—and after it was all over, it still generated the full rated power promised on the nameplate. Proof that Onan's exacting standards and production testing give you a power plant with long, dependable life built in.

Over 1,700 other endurance units have been run by Onan engineers. In these tests every design feature and part has to prove itself before it can become a part of the Onan you buy. In addition, every type and size Onan plant is tested under all operating conditions which could conceivably affect performance on your job.

Hours of running in and testing under full load are given *every* Onan before it is shipped. An independent testing laboratory then spot tests Onan Plants that have already been tested by Onan—double assurance that every Onan will deliver its full nameplate rating. Only then does an Onan production run qualify for Performance Certification.

Buy *proven performance* when you buy an Electric Plant. See your authorized Onan distributor or dealer. You can depend on him for a lifetime of factory parts and service. He's listed in the Yellow Pages.

ONLY ONAN GIVES YOU THIS CERTIFICATION

Onan
Onan
PERFORMANCE CERTIFIED
We certify that when properly installed and operated this Onan electric plant will deliver the full power and the voltage and frequency regulation promised by its nameplate and published specifications. This plant has undergone several hours of running-in and testing under realistic load conditions, in accordance with procedures certified by an independent testing laboratory.

World's Leading Builder of Electric Power Plants

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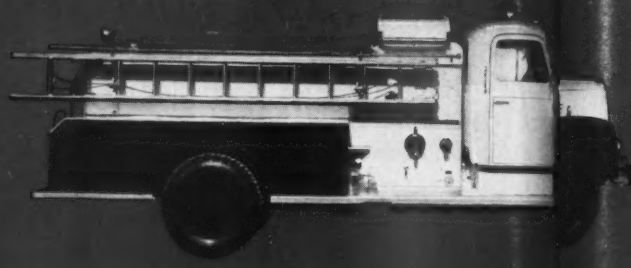
FROM EVERY ANGLE

HPV* FIREFIGHTERS ARE FIREMEN-DESIGNED, FEA

From every angle—performance, features, dependability, design—John Bean makes the best apparatus available for versatile, effective fire protection. Every feature, perfected by John Bean firefighter engineers, results from recommendations of firemen and chiefs in departments throughout the U.S. More design suggestions come from John Bean field sales representatives, many of whom are former fire chiefs. See for yourself with a demonstration in your community. Then you'll agree that John Bean meets your fire protection needs best.



HPV*'s

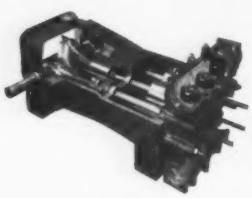
2-WAY PUNCH—

***HIGH PRESSURE FOG**

AND VOLUME PUMPS

John Bean High Pressure Fog and Volume equipment gives you the combined fire-fighting power of two great pumps—John Bean's original high pressure fog pump and the Class A, Underwriters'-approved centrifugal volume pump. For fast attack, high pressure fog stops fires before they grow. When you need volume, you can depend on John Bean's unmatched performance. Get both proven methods in the same apparatus with John Bean HPV.

FAMOUS BEAN HIGH PRESSURE PUMP

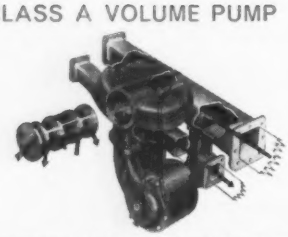


This original high pressure fog pump operates at 850 psi, delivers 60 gpm through two hose lines. Self-priming, it can be supplied from tank, hydrant or draft source.

PATENTED FOG GUN
(3 guns standard with each unit)

Easily operated by one man, this famous gun features instant, on-off trigger action. Rotating barrel permits quick selection of fog patterns from close-up sprays to long range fog.

CLASS A VOLUME PUMP



The rugged, John Bean centrifugal volume pump is N.B.F.U.-tested and approved for performance dependability. Available in capacities of 500, 600 or 750 gpm.

400-FT. HIGH PRESSURE HOSE

Standard equipment with each HPV Firefighter includes two, 200-ft. reels of special, high pressure (5000 psi discharge) hose.

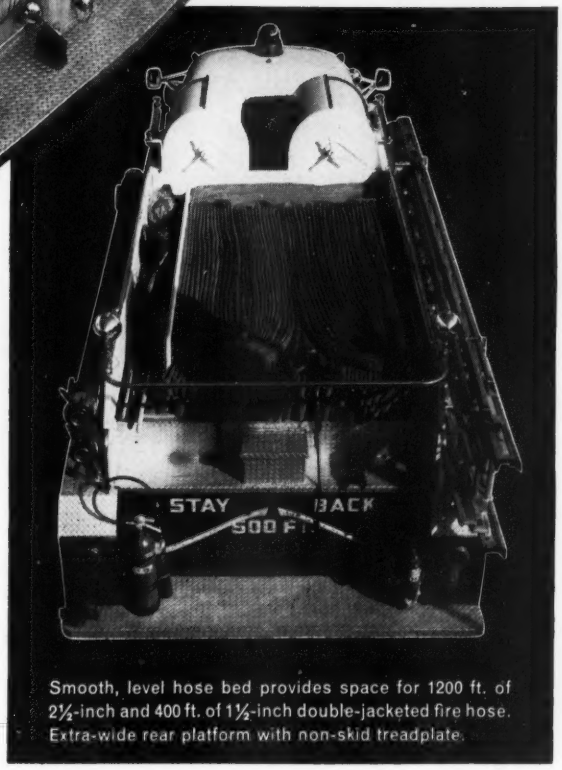
20-FT. SUCTION HOSE

Other standard equipment includes two 10-foot lengths of 4½-inch hard suction hose, complete with hydrant adapters and suction screens.

For PROOF of John BEAN FIREFIGHTER EFFECTIVENESS, WRITE

John BEAN

D, FEATURE PACKED



Smooth, level hose bed provides space for 1200 ft. of 2½-inch and 400 ft. of 1½-inch double-jacketed fire hose. Extra-wide rear platform with non-skid treadplate.

HEATED REEL COMPARTMENTS

Two enclosed reel compartments, as well as pump, valves, gauges and controls are warmed by engine heat to assure dependability in freezing weather.

500-GAL. WATER TANK

Big, 500-gal. tank supplies water for high pressure fog lines. Baffling prevents water surge, assures smooth cornering.

BALL-TYPE DISCHARGE GATES

Rugged, quick-acting gates will not leak under pressure or suction, turn easily at all operating pressures.

RUGGED CONSTRUCTION

Body panelling and compartments are special 12-gauge steel, completely reinforced with U-formed top.

THE ORIGINAL *HIGH PRESSURE FOG*

TODAY for DEMONSTRATION

John BEAN®

DIVISION OF
FOOD MACHINERY AND CHEMICAL CORPORATION
LANSING, MICHIGAN — SAN JOSE, CALIFORNIA

fmc

MIDWESTERN

Safety Clothing for Firemen

The Original STRIPED SAFETY COAT

The striped safety coat for firemen is an Original Midwestern development — first in the field — a leader ever since its introduction 19 years ago.

The BRILLIANT YELLOW stripes are actually rubberized into the black rubber . . . an exclusive feature that defies comparison with substitute or imitation models where the stripes are glued, sewed or painted on the material.

When working under hazardous conditions in smoke, fog, dust or darkness, firemen deserve the superior quality, design, comfort and safety features offered by the Original Midwestern Safety Coat.

Many Fire Chiefs who insist on the best of protection for the men of their department specify MIDWESTERN SAFETY garments to the last man because every outstanding Midwestern feature is original. All fabrics are extremely soft and flexible and have the qualities to stay that way at varying temperatures. You can always distinguish a MIDWESTERN SAFETY garment by the soft feeling of the material in both rubber and fabric type garments.

We have always designed and constructed our garments with the one thought . . . that every fireman deserves complete protection in his hazardous work of protecting life and property against the ravages of fire.

COMBINATION BUNKER SUITS

The many weights of both rubber coated and cloth type materials offered in our MIDWESTERN Quick-Hitch suit makes this combination ideal for all sections of the domestic market and export. Also, both coat and bunker pants may be purchased with or without detachable wool linings.

MIDWESTERN SAFETY MANUFACTURING CO.
Mackinaw, Illinois

☐ Have Midwestern representative call with complete information and prices.

☐ Send Free Catalog and fabric samples.

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MIDWESTERN SAFETY MFG. CO., Mackinaw, Ill.
Located in the heart of the Greater Peoria Manufacturing Area
Manufacturers of the Famous MACKINAW Safety Coat

All Models of **INDIAN FIRE PUMPS** Approved by Factory Mutual.

FOG MIST . . .
COARSE SPRAY . . .
LONG DISTANCE STREAM . .

A quick twist of the adjustable nozzle gives you what you need for any type of fire fighting! That's one of the reasons users of **INDIAN FIRE PUMPS** express their enthusiasm like this:

- "**INDIAN FIRE PUMPS** should be standard equipment on every piece of fire apparatus."
  Allan H. Clark, Chief
  Lakefield, Ont., Fire Dept.
- "We have used **INDIANS** for years and they are indispensable. They are ideal for many uses."
  Ray H. Earle, Chief
  Massillon, Ohio, Fire Dept.
- "**INDIAN FIRE PUMPS** are essential equipment and have proved their value time and time again. I have the highest regard for them."
  G. R. Mc Alpine, Chief
  Oklahoma City Fire Dept.

You Get Them ALL with

INDIAN
FIRE PUMPS! The World's Best

THREE GREAT MODELS TO CHOOSE FROM!

NO. 90 SLIDING PUMP TYPE

Extremely popular. Thousands in use. Armco Zinc Grip Steel, solid brass or chrome tanks. Spare parts always available.

NO. 90 FIBERGLASS

Send for circular descriptive of our new No. 90 FIBERGLASS tank INDIAN FIRE PUMP. Light weight. Will not rust or corrode. Solid brass pump.

NO. 80 LEVER TYPE PUMP and HANDLE

Armco Zinc Grip Steel, brass or chrome tanks. Continuous high pressure. Slings on back leaving arms free for quickly climbing about.

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BRIGHTON
BRIGHTON
3
FIRE DEPT.

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This town wanted nothing but the best

With an assessed valuation per capita said to be second highest of any fire district in the state, Brighton, N. Y., realized as far back as 1936 it needed the finest fire apparatus.

The decision of the Board of Fire Commissioners through the years: an all-Mack fire-fighting fleet that is the pride and joy of the well-manned Brighton Fire Department.

With a Mack 85-foot aerial and four Mack pumpers . . . 28 paid firemen . . . and 111 volunteer firefighters . . . the Brighton Fire Department is ready and able to handle the most demanding fire-fighting jobs.

Besides wanting the finest possible fire apparatus made, Brighton chose Macks for another very good reason: close-at-hand Mack parts and service, as everywhere in the United States. No waiting for a company representative . . . no weeks of waiting for delivery of a needed part from a distant city.

There are many additional reasons for Mack fire apparatus superiority—Thermodyne® diesel and gasoline engines to 276 hp . . . standard or automatic transmissions . . . air or hydraulic brakes . . . gear ratios and equipment for exact fire-fighting jobs.

Why not equip your department with the finest apparatus? It's simply a matter of making yours Macks. Mack Fire Apparatus, Allentown, Pennsylvania. Mack Trucks of Canada, Ltd., Toronto, Ontario. 8127

MACK
FIRST NAME FOR
FIRE APPARATUS

COMPLETE LINE OF PUMPERS—500 to 1250 GPM...SQUAD AND HOSE WAGONS...AERIALS 65′ to 146′...COMBINATION LADDER TRUCKS

MOCK SCHOOL FIRE brings Mack 85-foot service aerial and 750-gpm triple combination pumper to the scene fast. Chief Carl Guldenschuh directs activities of aerial crew, while pumper driver contacts headquarters on two-way radio. Aerial and pumper are both powered by famous Mack 707C Thermodyne fire apparatus engines.

A MAJOR TECHNOLOGICAL BREAKTHROUGH ...means greater firefighting

THE FIRST COMPLETELY TRANSISTORIZED TRANSMITTER

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THE FIRST COMPLETELY TRANSISTORIZED POCKET TRANSMITTER. . . . one-unit construction . . . new small size . . . greater dependability. Rated at ½ watt output, transmission is consistent over a greater than ever battery life. Measures 5½" x 2½" x 1⅛". Uses standard mercury cells or rechargeable nickel-cadmium batteries. Choice of fixed or collapsible antenna.

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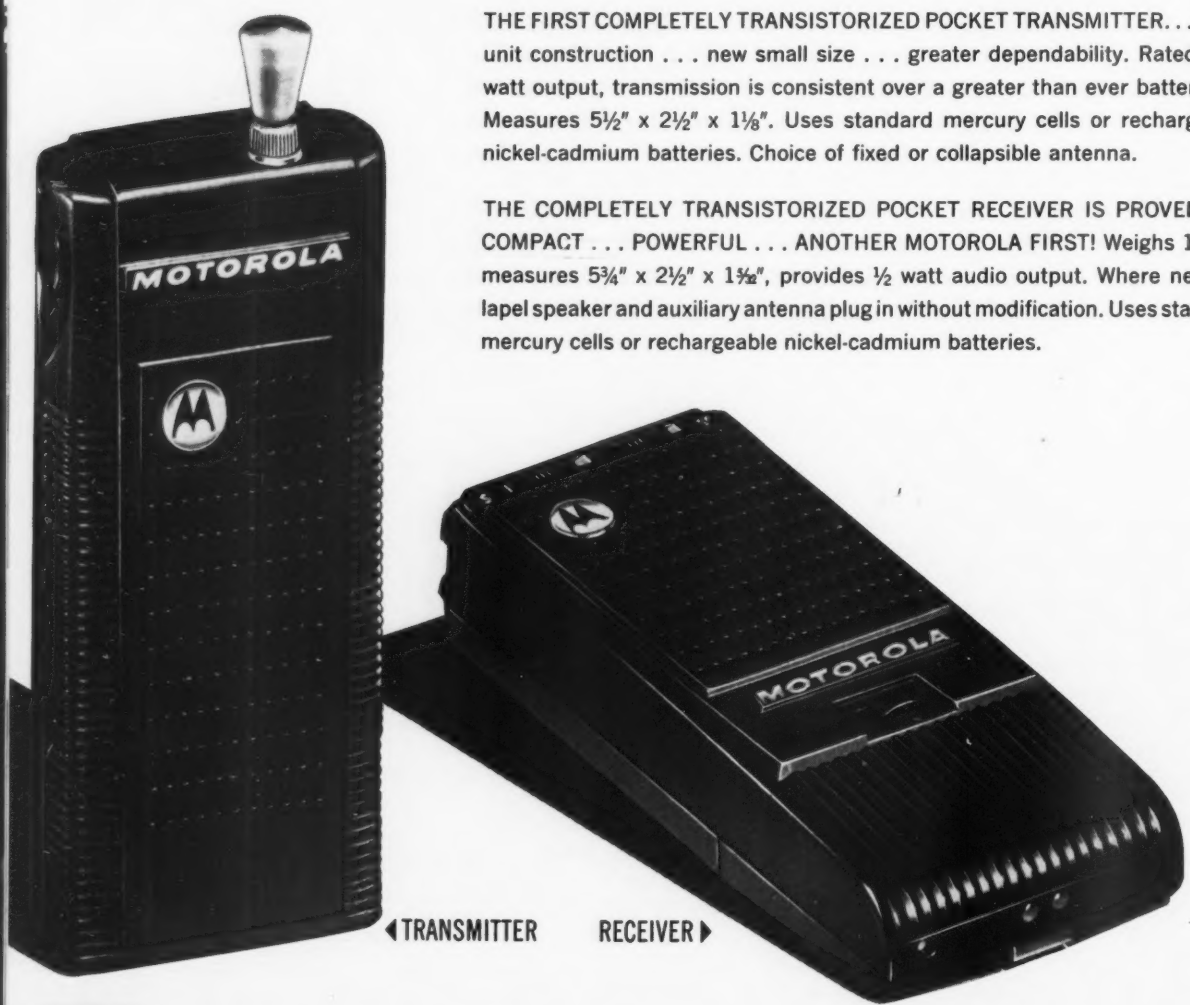

◀TRANSMITTER RECEIVER▶

MOTOROLA 2-WAY POCKET RADIO

in pocket 2-way radio teamwork and control

Here's how Motorola Pocket Communications can serve your department

Now, the man-on-the-scene can maintain full communications with (1) other pocket radios (2) portable radios (3) mobile radios.

- Direct movement of key personnel afoot.
- Increase effectiveness of "close-in" radio firefighting control.
- Maintain full contact with mobile units en-route to scene.
- Control and direct men using special purpose equipment.
- Coordinate efforts of additional manpower.

Why not learn how Motorola 2-way Pocket Radio can do-the-job for you.

SEND THIS COUPON TODAY

MOTOROLA COMMUNICATIONS & ELECTRONICS, INC.
A Subsidiary of Motorola Inc.
4501 Augusta Boulevard, Chicago 51, Ill.

☐ Mail me full fact kit on 2-way pocket radio. No. FE-13
☐ Have representative telephone for appointment

Name_____ Title_____

Company_____

Address_____ Phone_____

City_____ Zone____ State_____

INTERNATIONAL WITH DUAL IGNITION FOR SPLIT-SECOND ACTION!

INTERNATIONAL Model VCO-196 shown here offers safe forward control vision. Choice of 401, 461 and 549 cu. in. V-8 engines and five axles. Select-O-Matic (semi-automatic) transmission reduces shifting effort, allows maximum attention to driving. Other INTERNATIONAL Fire Truck Chassis to 33,000 lbs. GVW.

Only INTERNATIONAL brings you factory production V-8 engines with the doubly sure action of dual ignition. You can fire both sets of plugs simultaneously, or either set individually, by turning a switch. And these rugged, true-truck V-8's deliver dependable pumping power up to 257 hp., capacities up to 1,250 gpm.

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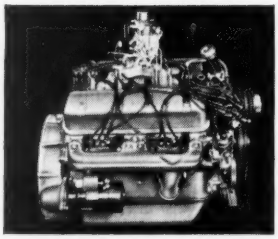
See your INTERNATIONAL Truck Dealer or Branch soon for details. Here is where you get complete information on components and know-how to help custom-fit a fire truck chassis to your exact needs.

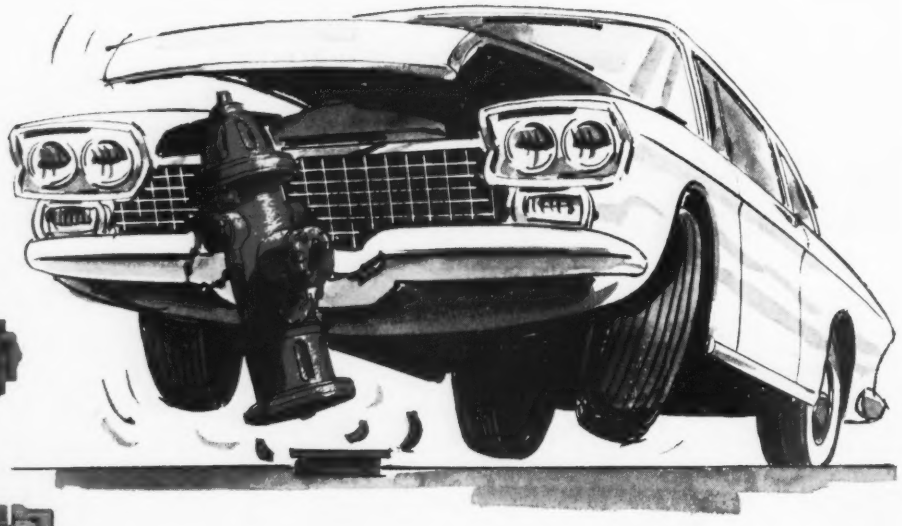
You can be sure of dependability, stamina, and safety right from the word go!

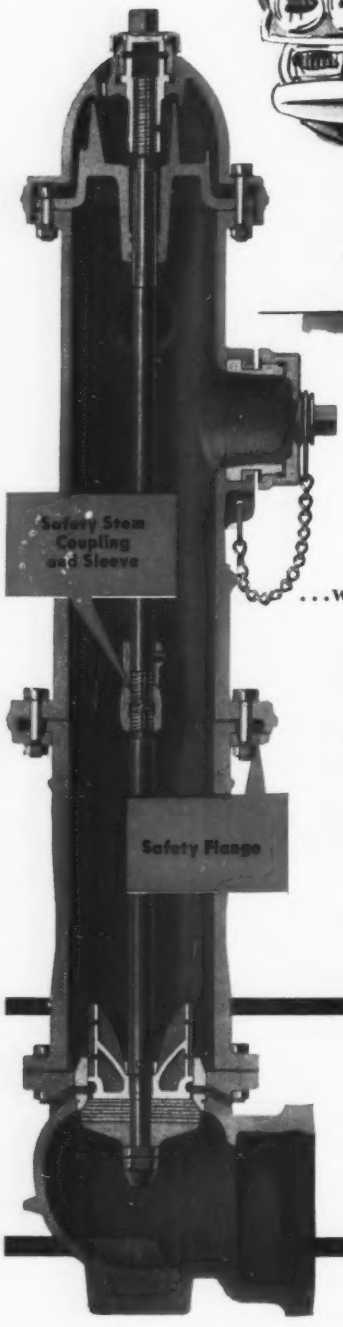


Dual Ignition International V-8's Leap Into Action.
Engines of 461 and 549 cu. in. displacement are true low stress V-8's and proved to operate at maximum rpm. By-pass cooling and alternating valve system help insure long engine life.
Contoured heavy dome piston and combustion chamber creates high turbulence and even burning of fuel.

INTERNATIONAL® TRUCKS WORLD'S MOST COMPLETE LINE IH®

International Harvester Company, Chicago • Motor Trucks • Crawler Tractors • Construction Equipment • McCormick® Farm Equipment and Farmall® Tractors





repair hydrant traffic damage FAST

...without loss of water...without water shut-off...without digging

The Mueller AWWA Improved Fire Hydrant is quickly put back into action when knocked over.

Mueller's Safety Flange design prevents breakage of the hydrant barrel and bent or broken operating stem. Hydrant safety mechanism snaps off cleanly just above the ground line.

The compression-type main valve stays closed. No water is lost to affect pressure at neighboring hydrants. No damage is caused by flowing water. Lower stem section is held solidly in place to permit easy repair without digging.

The simple, inexpensive repair kit shown below contains all parts needed to completely restore hydrant to service in a matter of minutes.

Safety Flange Repair Kit

Consists of safety flange, safety stem coupling, safety flange gasket and can of Mueller hydrant lubricating oil.

Write for complete information and specifications.

MUELLER CO. since 1857 SERVING the Water and Gas Industries QUALITY

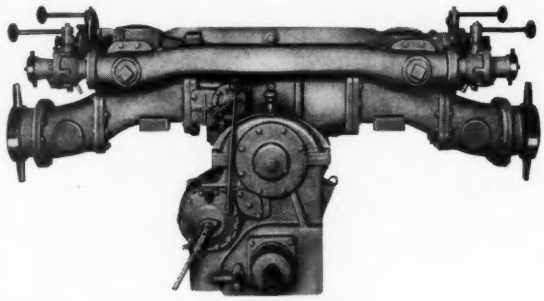
4383

MUELLER CO.
DECATUR, ILL.

Factories at: Decatur, Chattanooga, Los Angeles
In Canada: Mueller, Limited; Sarnia, Ontario

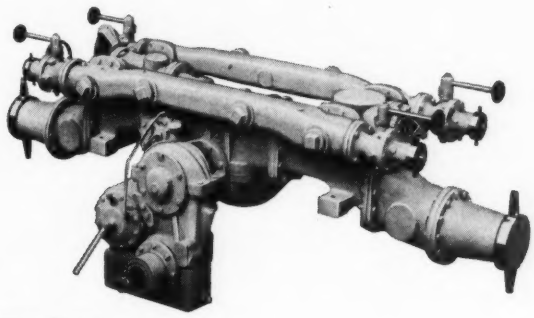
the HALE "Basic 4"

Hale builds FOUR basic Fire Engine pumps; two single-stage and two two-stage pumps—*not just one modified to meet all conditions.* Hale's four classes of midship pumps for fire trucks allow fire companies to meet specific needs for their particular areas. Check each pump . . . see how one of these four great Hale pumps suits your own particular needs best. All perform "above and beyond the call of duty."



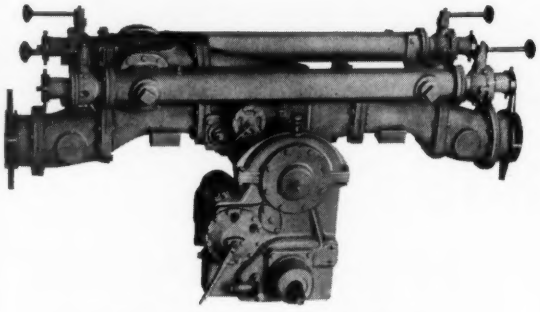
The HALE Type Q Pump

A two-stage, two-impeller pump. This is the pump you need for big jobs . . . maximum working pressure to 600 p.s.i. You can use it for 1000—1250—1500 G.P.M. (Class A) and have lots of reserve. Write for Bulletin # 367.



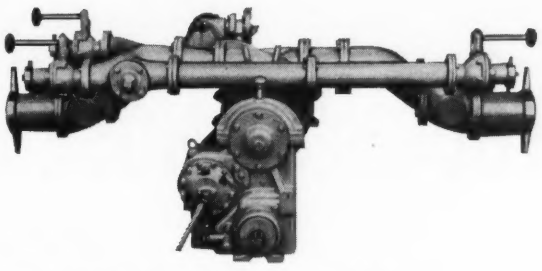
The New HALE Type QLD Pump

The new Hale 2-stage QLD—rugged younger brother to the "Q"—is outstanding in performance. Includes latest design features such as the 2" drive shafts in the pump drive unit, so important for heavy-duty service. Designed to meet and amply exceed 500—750—1000—1250 G.P.M. (Class A) ratings. Write for New Bulletin # 383.



The HALE Hi-Stage Type QSM

The Hale Hi-Stage QSM, with single double-suction Impeller, is an "in-fighter" with terrific slugging ability. Notable for SIMPLICITY of OPERATION—operator has instant command of complete pumping range with one control, the engine throttle. Gives you 1000—1250—1500 G.P.M. (Class A) with tremendous reserve. Write for Bulletin # 365.



The HALE Super-Single Type QS

The single-stage Hale type QS is designed for high efficiency over a wide operating range compared to previous single stage pumps in its class. Meets the need for high performance plus SIMPLICITY of OPERATION. Pumps 500—600—750 G.P.M. (Class A) with ample reserve. Ideal for Fire Departments with limited budgets. Write for Bulletin # 362.

WRITE TODAY for Bulletins you want; ask too, for new list of quality Apparatus Builders using HALE Fire Pumps.

HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PENNSYLVANIA

TOUGHEST HOSE GOING

It's jacketed 100% with DACRON®

Draw it through rubble . . . stomp on it . . . splash it with chemicals . . . soak it in water—hose jacketed 100% with "Dacron"* polyester fiber can really *take it!* In one test, hose of "Dacron" was ready for immediate action after being dragged 2.5 miles over asphalt. A cotton hose was unserviceable after the same torture treatment.

"Dacron" is so tough it cuts your hose replacement costs to the bone. And jacketing of "Dacron" makes your hose more flexible, easier to handle. You save time, too, because you can always repack hose of "Dacron" wet without damage from mildew or rot.

Be sure to insist on hose of "Dacron". See your supplier now . . . or write to E. I. du Pont de Nemours & Co. (Inc.), Textile Fibers Department, D. M. 16621, Third & Greenhill Avenues, Wilmington 98, Delaware.

*"Dacron" is Du Pont's registered trademark for its polyester fiber.

DU PONT

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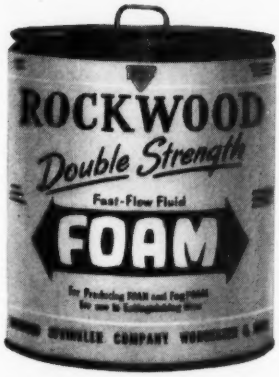
BETTER THINGS FOR BETTER LIVING...*THROUGH CHEMISTRY*

99.7%

of Rockwood FOAM protection is FREE!



ROCKWOOD SPRINKLER COMPANY

A Division of The Gamewell Company
A Subsidiary of E. W. Bliss Company

Engineers Water . . . to Cut Fire Losses

FOR FIRE FIGHTING purposes Rockwood Double Strength FOAM is inexpensive and completely effective. 3 parts *Rockwood Foam Liquid, plus 97 parts free water, plus 900 parts free air give you a fast low-cost fire extinguishing agent for only 1½ cents a gallon!*

Rockwood Double Strength FOAM puts out fires fast . . . reduces your storage costs . . . reduces shipping costs too! If you're using other types of special hazard fire extinguishing agents — you may not be using the most economical or most effective agent! We'll show you how to save on training cost and on fire fighting costs — and to fight fires better! Send in the coupon below. Tested and listed by Underwriters' Laboratories, Inc. Distributors in all principal cities.

ROCKWOOD SPRINKLER COMPANY
Portable Fire Protection Department
449 Harlow Street, Worcester 5, Massachusetts

Please send me complete information on Rockwood fire-fighting products.

Name.....
Title.....
Company.....
Street.....
City.....*Zone*....*State*.....

Fyr-Fyter

offers you these Fire Department products

...and 1174 more!

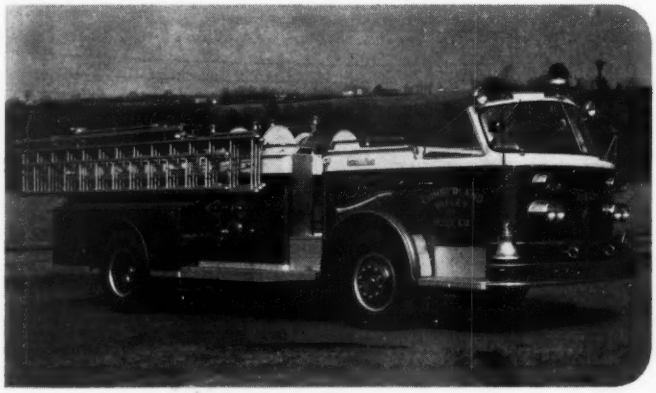
Your largest single source for all municipal, industrial and commercial fire department equipment is Fyr-Fyter, with more than 1200 different items to select from! To name only a few of these high-quality products, the complete Fyr-Fyter line includes approved fire hose, Wooster brass goods, nozzles and couplings, portable fire extinguishers, clothing, pumps, ladders, warning and signaling devices, first-aid kits, masks, breathing apparatus, fire alarms, etc. Your Fyr-Fyter representative is thoroughly trained and experienced in fire department problems . . . can offer valuable counsel and make equipment recommendations without prejudice. With Fyr-Fyter as your single source of supply, you place one order and pay one bill, thereby eliminating the complicated paper work involved in dealing with many suppliers. Write today for free catalog describing 1200 items to The Fyr-Fyter Company, Dayton 1, Ohio.

Fyr-Fyter

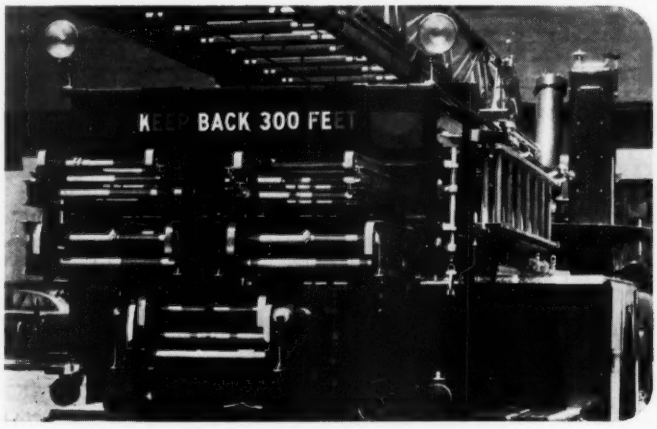
products of THE FYR-FYTER COMPANY

Branches: Atlanta, Baltimore, Boston, Chicago, Dallas, Dayton, Detroit, Los Angeles, New York, Newark, Philadelphia, Pittsburgh, Portland, Rochester, San Francisco, Toronto (Ontario). Representatives and Distributors in all principal cities.

An Alco-Lite 14′ Pumper Roof Ladder and 24′ Pumper Extension Ladder on a 900 Series American LaFrance Pumper.



An Alco-Lite 14′ Pumper Roof Ladder and 35′ Pumper Extension Ladder on a 900 Series American LaFrance Pumper.



This typical nesting of Alco-Lite Ladders on American LaFrance Aerials includes a 24′ Pumper Extension Ladder, 20′ Straight Ladder; 35′ Heavy Duty Extension Ladder, 28′ Pumper Extension Ladder; 16′ Pumper Roof Ladder, 35′ Heavy Duty Extension Ladder, and 50′ Heavy Duty 3 Section Extension Ladder.

Original Manufacturer of Aluminum Ladders

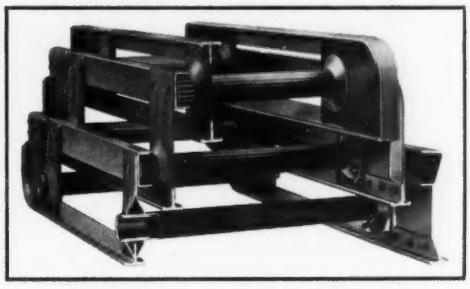
ALCO-LITE

aluminum ladders are standard equipment on these trucks

Alco-Lite Aluminum Ground Ladders are lighter weight . . . easier-to-handle . . . safe. Exclusive gusset plate, expansion bushing construction makes possible the open side rail,T-channel design. Excess weight adding bulk in the side rails is eliminated. More than meet all current tests for strength and safety.

Alco-Lite Aluminum Ladders are unaffected by moisture, water, fumes, gases. Won't warp, rust, rot, splinter, or burn. Almost maintenance free!

Rungs won't twist, turn, or break off. Feature non-slip type corrugations.

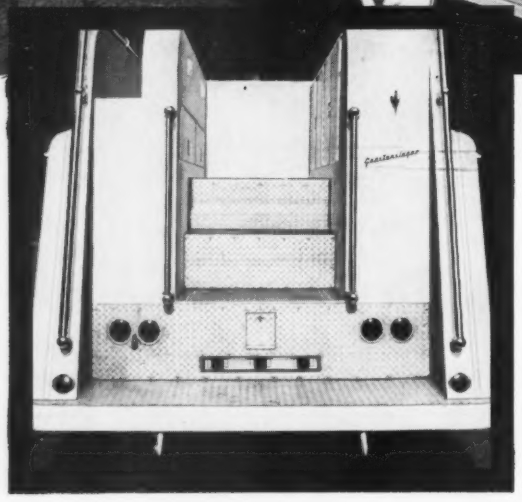


Channel slides prevent sections from disengaging. On large ladders, automatic spring loaded locks allow sections to extend, lock, and unlock simultaneously.

Aluminum Ladder Company **ALCO-LITE**

FLORENCE S. CAROLINA

IS THIS THE STYLE FIRE-RESCUE UNIT YOUR DEPARTMENT NEEDS?



Niles, Michigan unit combines emergency fire-fighting features and excellent rescue facilities

This Gerstenslager rescue unit for Niles was developed to provide a real assist at fires as well as operating independently in other kinds of rescue work.

It combines complete compartmentation inside and out for easy access to all equipment and tools as well as portable generator and pump. Body encloses a 300-gallon booster tank for emergency fire fighting. Ample hose is provided.

Fire-rescue units must meet local conditions and requirements, and Gerstenslager has the experience to provide for these needs. Your Gerstenslager representative is nearby, ready to help you with your planning. His service is available without obligation. Write, wire or phone.

THESE ARE SOME OF THE FEATURES!

Short wheelbase Ford chassis Model C-550 tilt cab. Rear step and deck constructed of 3/16" aluminum tread plate for sure footing. Body and chassis are two separate units. Equipped with emergency front and rear warning lights, two front spot lights, two rear flood lights and roof mounted siren. Ample grab-rails for all crew members.

THE GERSTENSLAGER COMPANY · FOUNDED 1860 · DEDICATED TO TRANSPORTATION · 100 YEARS

GERSTENSLAGER

THE GERSTENSLAGER COMPANY • WOOSTER, OHIO • PHONE AN 2-2015
CUSTOM BODIES SINCE 1860

DURA-FOG NOZZLE

SUPER-FORGE COUPLING

BALL TYPE SIAMESE

BALL TYPE VALVE

POWhatan BRASS GOODS

are available wherever you are . . . Through your local dealer—or overnight air express direct from us.

DURA-FOG NOZZLE the sweetest little fog nozzle you've ever used. Exceptionally fine dispersion with less water. Every one factory tested and guaranteed, 100% performance or your money back.

SUPER-FORGE COUPLING
The toughest, tightest, lightest coupling you can buy. Drop forged for rough fire service. Non-corrosive. Comes with 3 "Sensible" lugs on both male and female, with Higbee Indicators.

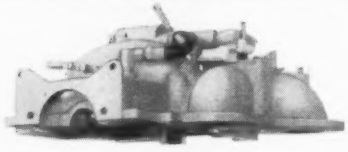
BALL TYPE SIAMESE 2½" x 1½" x 1½".
Quarter turn gives you full stream—full shut-off, any pressure. Straight-through waterway. Comes with either pin or "Sensible" lug swivel. Red body, with polished brass or chrome trim.

BALL TYPE VALVE
1½ inch and 2½ inch—quick quarter turn for full stream or full shut off. Speeds attack! Built expressly for rugged, exacting fire service.

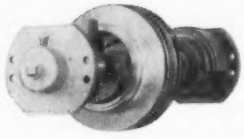
Specify **POWhatan** Brass Goods

POWHATAN
BRASS & IRON WORKS
RANSON, WEST VIRGINIA

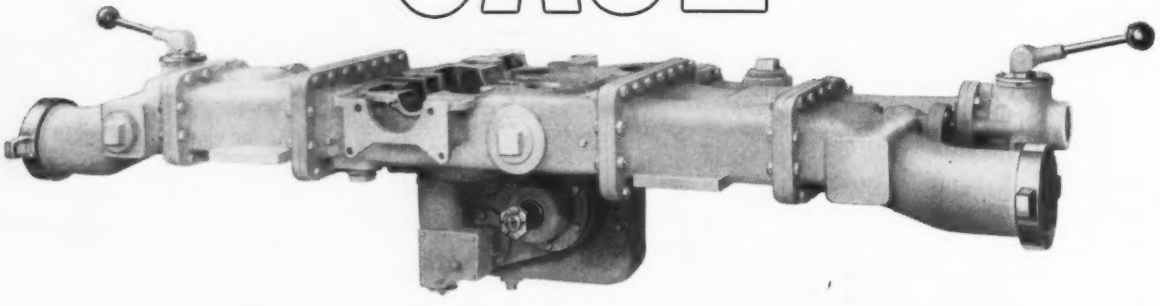
WATEROUS



SINGLE-SPLIT



CASE



provides easiest access

Another superior feature of WATEROUS fire pumps is the horizontally split case. Inspection of WATEROUS fire pumps is easy because the top is attached to the bottom by a single horizontal hydraulic flange and capscrews.

Major pump components—impellers, wear rings, impeller shafts and bearings—may be inspected or repaired, if necessary, without disturbing the setting of the pump in the chassis.

Behind every WATEROUS fire pump stands a heritage of 75 years of experience and service. That's one more reason why WATEROUS fire pumps are standard on most better known makes of fire apparatus.

Specifications and literature on request.

WATEROUS COMPANY

80 East Fillmore Avenue • St. Paul 7, Minnesota • Dept. 3F15

ANNIVERSARY 75 WATEROUS SINCE 1886

From

AMERICAN LAFRANCE

The TRUSTED Name

in

Fire Extinguishers

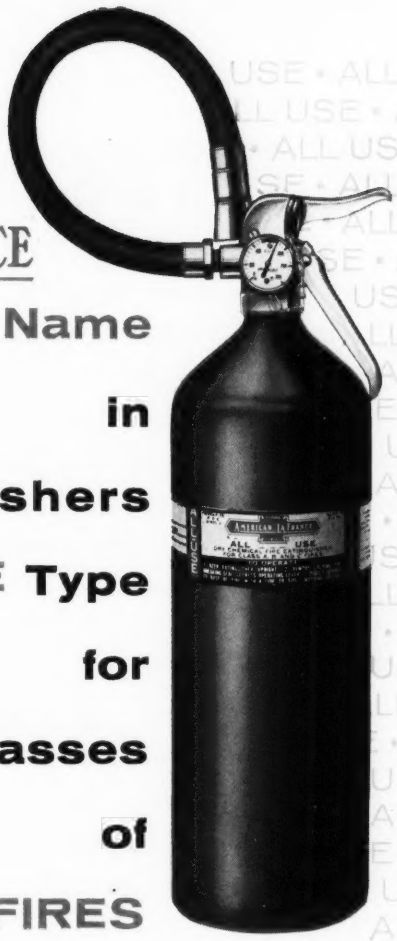
ONE Type

for

ALL Classes

of

FIRES



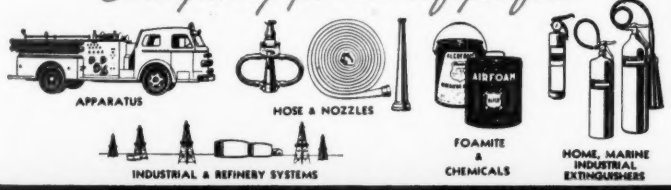
AMERICAN LAFRANCE announces the NEW "ALL-USE" Fire Extinguisher to handle A, B or C fires quickly, effectively. Engineered to the high quality standards of American LaFrance, and subjected to rigid laboratory and field tests, the "ALL-USE" eliminates the fire emergency confusion and delay in finding the right type of extinguisher for the fire. Easy to use, pull pin, squeeze handle . . . Non-toxic, non-corrosive, non-freezing. Available in 10 and 20 lb. sizes. *(The American LaFrance ALL-USE 10 lb. is the only 10 lb. extinguisher approved for A, B or C fires. Its rating is equal to most competitive 15 lb. extinguishers.)*

For further information or a demonstration in your plant or a complete survey of your fire protection needs, phone, wire or write:
American LaFrance, 53 E. LaFrance Street, Elmira, N. Y.

APPROVED BY:
Underwriters' Laboratories
Ratings 10 lb. 1A:16B:C
20 lb. 3A:20B:C
Factory Mutuals
U. S. Coast Guard Approval
No. 162.010/181/0
No. 162.101/180/0

ACCEPTED BY:
Federal Aviation Agency for Proper Aircraft Applications.

Everything you need to fight fire!



AMERICAN LAFRANCE
A DIVISION OF STERLING PRECISION CORPORATION
ELMIRA, N.Y.

LaFrance Export Corporation
Elmira, N. Y.
LaFrance Fire Engine and Foamite, Ltd.
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The World's First and Largest Makers of Fire Fighting Equipment

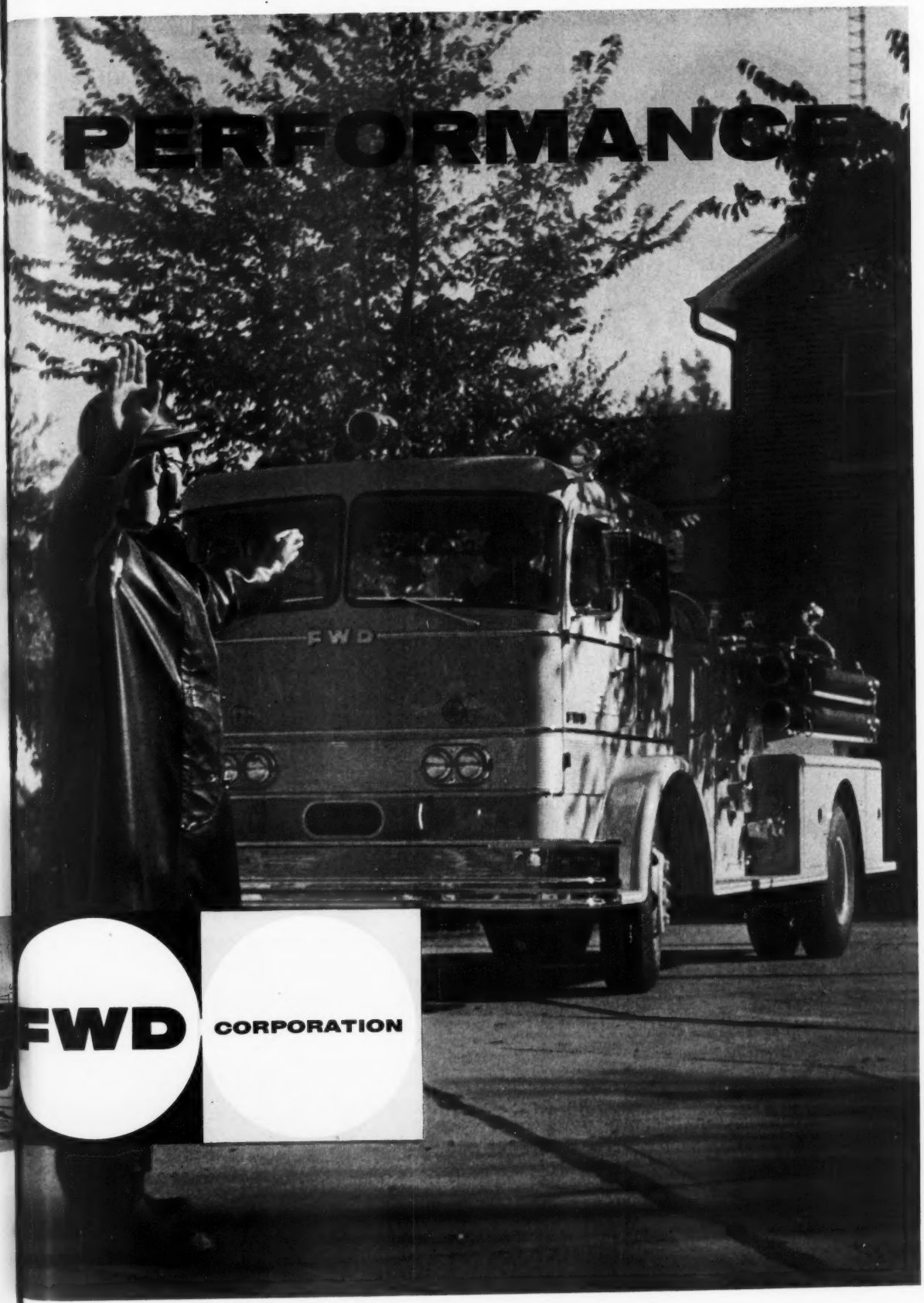
TRAINING . . .

Firefighters spend many hours improving skills, performance, teamwork, rescue techniques, knowledge of equipment and emergency operating procedures. Nothing is left to chance in fire fighting . . . it is an exacting science.

The most highly trained fire fighting team in America is stymied if there is a vehicle failure . . . at the station, during the run or at the fire location. FWD fire apparatus is designed to deliver fire fighting teams every time – fast. To any location, through all kinds of weather, over the roughest terrain.

Emergencies demand performance – FWD performance.

Only FWD has full-time, all-wheel drive with proper power proportioning to each axle. This means safer vehicle control – in-town as well as out-of-town – right to the fire. Ask your FWD fire apparatus dealer for a demonstration soon. FWD CORPORATION • CLINTONVILLE, WISCONSIN • CANADIAN FACTORY • KITCHENER, ONTARIO • Worldwide parts and service.


PERFORMANCE
FWD
FWD
CORPORATION

The 1961 S&S Professional Cadillac Ambulance is precision engineered to incorporate every service and comfort feature available through automotive science *and* deliver the finest ease-of-handling on the road today. We challenge you to tell us where this ambulance can be improved! Since it would be impossible to detail every feature even in twice this space, we invite you to write for complete specification sheets. Then you tell us if there is a feature we have missed — or if you agree that the 1961 S&S Ambulance is the finest professional rescue equipment you have ever seen. The Hess & Eisenhardt Company, Cincinnati 42, Ohio.

Is there a feature missing

in this 1961 S&S Professional Cadillac Ambulance ?

Storage? An S&S has more compartments than ever and not one of them interferes with the largest working area in the industry. And here is the only left-hinged door for convenient curbside loading. Here, also, is a hint of the sculptured-in-steel rear design that is distinctively S&S.

Emergency? Here is big, 5-patients-and-attendant capacity; and a new standard of comfort in the floor length, even-distribution heating system, an S&S exclusive. Here is new convenience with the exclusive S&S Automatic Locking Cot Fastener that does not require moving a hand from the cot.

From the timeless beauty of sculptured styling to the smallest interior detail, an S&S ambulance is the product of 85 years of advanced engineering and dedicated craftsmanship. Only S&S gives you the stability and safety of body-and-chassis "Monotized Construction."

the tradition of leadership... S&S

ONLY FROM GMC

FAST-STARTING, TOP-PERFORMING V-6 FIRE FIGHTERS!

Exclusive GMC V-6s have sure-fire ignition and balanced fuel systems to get started fast, without complicated dual ignition and bothersome many-barreled carburetion.

Full power is produced at low engine speed, over a broad range, to get to the desired road speed fast and maintain it without a lot of gear shifting.

GMC V-6 engines are also built for extra-long life; minimum maintenance; economy that squeezes the most from every drop of gas.

You can choose from six V-6 power plants . . . 150 to 210 hp . . . 500 to 1000 gallons per minute pumping capacity. Your GMC Dealer listed in the Yellow Pages will gladly give you all the specific data, including prices.

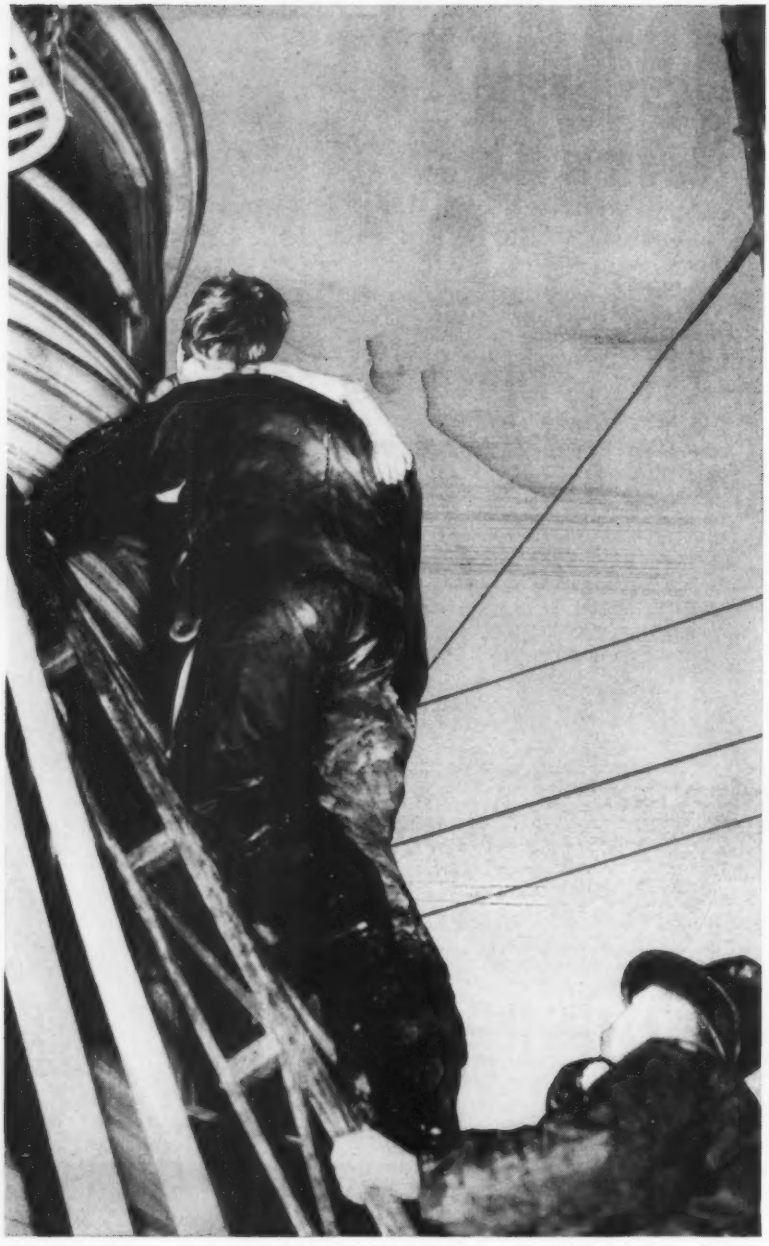
GMC
GENERAL MOTORS CORPORATION
TRUCKS

GMC V-6 and V-12 engines meet all the requirements to pump 500 to 1500 gallons per minute . . . 90" and 105" Conventional Cabs and 72" Tilt-Cabs.

GMC Truck & Coach—
a General Motors Division—
Pontiac, Michigan.

12

Pump 1500 Gallons Per Minute At The Lowest Possible Cost With The Most Powerful Standard Production Gas Engine Built . . . The GMC 299 hp. V-12.



Your children are not safe in school....

unless your schools are equipped with a Master Box that *automatically* and *instantly* notifies your Municipal Fire Department . . . *plus* an interior fire alarm system which *simultaneously* sounds an alarm to evacuate the children.

Fire strikes and spreads so rapidly that any delay — even seconds — means greater loss of life and property. Provide *complete protection* for your schools with a Gamewell Master Box, located outside or inside the school building, that sends one vital message — FIRE — *without delay.*

Are you making your community a safer place to work and live?

Equally important is providing adequate protection for your growing community with a sufficient quantity of "Pull" type fire alarm boxes. Modern up-to-date cities such as Chicago, Ill., Burlington, N. C., Tulsa, Okla., Quincy, Mass., and Petersburg, Va., are employing a planned program of adding Gamewell fire alarm boxes and Master Boxes to meet the demands of their growth. With a Gamewell fire alarm system you can provide your community with the same maximum protection *and also give your taxpayers a two-way saving . . .*

- Loss of life and property damage are decreased because the Gamewell system gives fast, positive alarms.
- Reduction of insurance rates by upgrading Fire Underwriter's classification saves substantial sums for property owners.

Don't fall behind the growth pattern of your community. Protect yourself, your property owners, and your children with a Gamewell system that is directly connected to your Municipal Fire Dept. The Gamewell Company will be happy to conduct a FREE survey of your existing fire defenses and make recommendations that can give your community the protection it needs. Write or call The Gamewell Company, **1249** Chestnut Street, Newton Upper Falls 64, Massachusetts. *A Subsidiary of E.W. Bliss Co.*

BLISS Gamewell®

FIRST...WHEN SECONDS COUNT

FIRE
ENGINEERING

VOL. 114, NO. 3 MARCH, 1961

THE JOURNAL OF THE FIRE PROTECTION PROFESSION SINCE 1877

Increased Fire Prevention Efforts Are Needed

Announcement by the National Board of Fire Underwriters that estimated fire losses of more than $1,107,000,000 for the year 1960 were the highest in history may spark some speculation concerning the effectiveness of this country's fire prevention efforts. While the dollar loss total represents a waste of our resources which in large measure can be avoided, and is therefore nothing to be proud of, the National Board itself believes the nation is winning its never-ending battle against fire. Upon announcing the figures, the Board pointed out that the record loss over the past few years was in part due to the greater volume of construction and to rise in value of new and existing buildings as a result of inflation. The key to the latter statement is the fact that each year the loss of property burned is less when contrasted with the total number of buildings and their contents at risk.

The fire insurance industry has given concrete evidence in recent months that it accepts this analysis of the situation, for in many areas it has reduced premium costs to certain property owners. During 1960, substantial rate reductions, in some instances up to 50 per cent, for one and two-family dwellings, as well as for schools, hospitals and certain other public buildings were announced in seven Far Western and Pacific Coast states. These actions followed reductions in certain risk categories in other sections of this country.

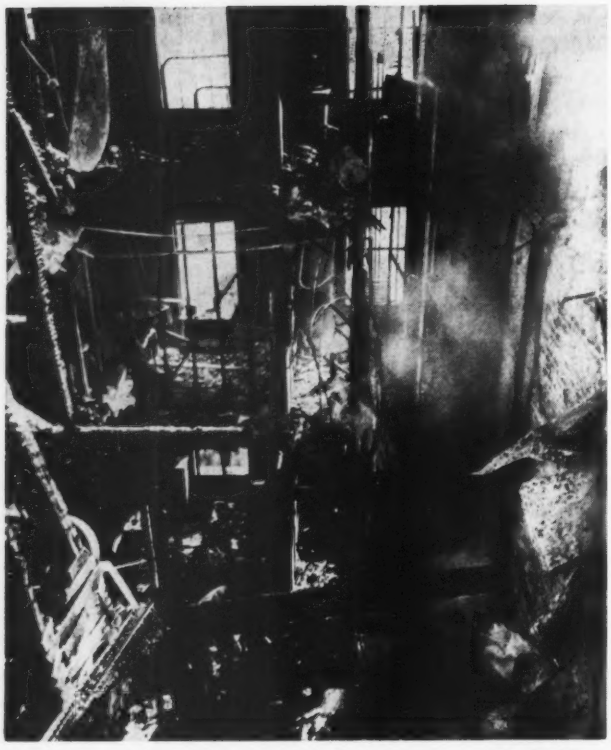
Naturally this reflects great credit on the nation's fire protection forces and the contribution they have made toward increased safety from fire. It is also a tangible tribute to community governing bodies and other public officials who recognize the importance of fire protection and strive to support and improve this vital service. Not to be forgotten at this time are the many contributions of the fire equipment industry which provides the apparatus and tools necessary to carry out this vital function.

The fire loss record of this country is not, however, something to boast about. It is instead a national stigma that can be reduced only by continued vigilance on the part of all concerned. Modern fire prevention efforts which have proven effective must be increased in scope and participation by fire fighters themselves. The International Association of Fire Chiefs stated not long ago that home fire inspection programs have been undertaken by nearly 50 per cent of all fire departments and the results have been most gratifying. According to the record, losses in the residential category have decreased where the program is employed, yet even greater achievements can be expected if only half of the remaining departments who have not instituted such inspections will take action. The ground work for this endeavor has been firmly established by the fire service itself and is a contribution to national safety that cannot be minimized. Yet greater efforts are required.

The field of fire research is also a subject which deserves greater effort and one which can pay increasing dividends in the coming years. Many public and private agencies, including individual fire departments, have made substantial contributions to this area during 1960. Yet if greater success is to be achieved in 1961 these efforts must be redoubled. From time to time fire fighters have expressed misgivings in this direction, fearing that lack of support on the part of the general public will defeat even the most sincere effort. It is only necessary to look at the population census figures to refute any detractor and strengthen those persons who may be wavering in their resolve to forge ahead.

It is officially stated that nearly 180 million people live within the confines of this Union. Latest estimates available indicate that almost 1 per cent of these persons are volunteer and paid fire fighters or fire protection persons in some category. The influence that such a number of our total population can exert on the whole is tremendous and this significant factor should not be overlooked. Certainly among this great total there is sufficient intelligence, ingenuity and leadership available to bring this country to new levels of genuine fire safety. What is immediately required is renewed effort on the part of all fire fighters and a well-directed program of public information such as that recently proposed at the midwinter meeting of the directors of the International Association of Fire Chiefs.

Hlow O'Brien



Interior view of destruction caused by fire in the rear of the building. Unprotected vertical openings permitted rapid extension of flames

Exterior Minna Street view of building rear following control of fire. Standpipe adjacent to fire escape was inaccessible upon arrival of firemen

Twenty Die in San Francisco Hotel Fire

Combination of smoking in bed, delayed alarm and unprotected stairways create early morning tragedy during unusually cold weather

HAZARDS which have been pointed out by fire protection authorities for years combined on January 6 in San Francisco to create a disastrous fire in the Thomas Hotel, 967-71 Mission Street, which caused death to 20 persons and injuries to at least 37 others. All were guests of the hotel.

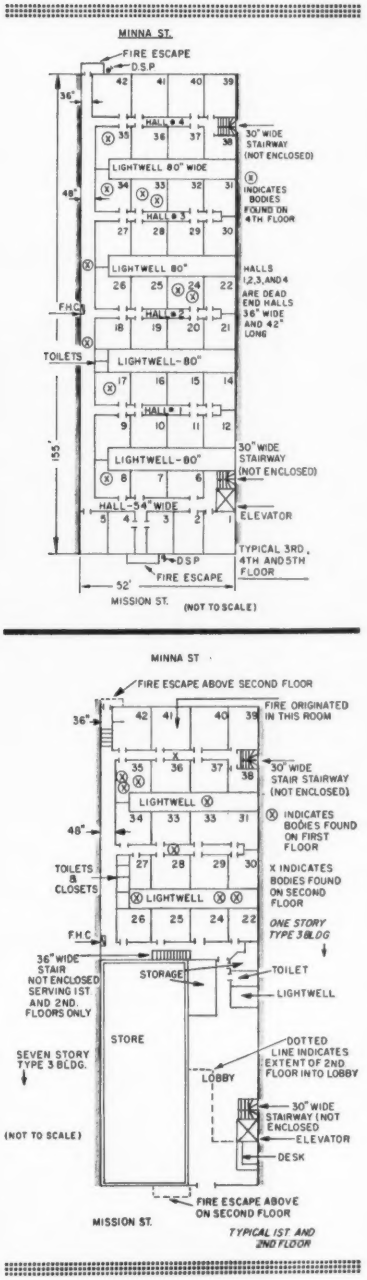
The four and five-story building was mainly of brick with wood joists. Some unprotected metal was employed in the front wall, basement and second floor. Vertical openings included an elevator and an open stairway from basement to roof plus another open stairway from the first floor to the fourth floor and a third, also open, connecting the basement and first floor. Exterior fire department standpipes were provided front and rear in conjunction with the fire escapes.

Chief William F. Murray explained to FIRE ENGINEERING that the building is of a type and occupancy not uncommon to San Francisco. The presence of the elderly, infirm, and in many cases, people existing on small pensions or limited income, is rather typical of a national trend. It is also of the type, readily apparent to the professional fire fighter, that is conducive to heavy life loss if fires are not detected, reported and extinguished quickly.

It is alleged that a 61-year-old occupant of Room 41, had been drinking, and falling asleep, dropped a lighted cigarette which eventually ignited the mattress of his bed. At about 5 a.m. he discovered the fire and rushed into the hallway where he met another guest from an adjoining room.

Members of Truck 8 remove victim through lobby entrance. Note lines attached to standpipe connection in building front

—Official S.F.F.D. photo by Chet Born



Together the men attempted to extinguish the fire with an extinguisher taken from its position on the wall nearby and were partially successful. However, it flared up again and the night clerk was then notified of the emergency. The clerk telephoned the fire department and started to alert the 135 guests who occupied the 160 rooms in the hotel.

Fire operations

The fire department received the alarm at 5:10 a.m. and a full first-alarm assignment responded. The following description is in the words of Chief Murray:

"The first-arriving companies from a station hardly one-half minute removed from the fire scene, and consisting of an engine company with separate hose tender, an aerial ladder truck, a rescue squad and a chief officer, were confronted with a fire situation already of third-alarm proportions. The blaze had fully involved the rear 30 per cent of the building from the ground floor out through the roof.

"In the rear alley all immediate efforts were directed toward rescue. An engine company manned a life net to rescue a woman jumper from an upper story whose blazing clothing set fire to the net. One occupant was picked off by an aerial ladder just as fire engulfed the window from which he had been rescued. An aged double amputee was ladder rescued.

"Firemen made numerous rescues by locating and leading victims to safety through the heavily smoke-filled halls from which they never would have escaped otherwise. This was made all the more difficult because access to the interior had to be from the front only by way of the single 4-foot hallway along the left wall into the 3-foot side halls each 42 feet in length. While this was being done, additional companies had to lead hose lines along the same paths to arrest fire travel to the front. To the credit of all my officers and men who exerted herculean efforts in both rescue and fire containment processes, the forward progress of the fire was stopped, as though cut by a knife from basement to roof, at a point near Hall No. 3.

"Heavy streams operated from the rear by necessity to prevent fire extension and to reduce the danger of flying embers which issued in great amounts from the heart of the fire to distances hundreds of feet from the scene. Upon arrival, both the rear fire escape and dry standpipe were unapproachable; a solid sheet of fire lighted every window.

"I shall never cease to marvel at the relatively low life loss ratio of 20 to guest occupancy of 135. One of these victims died from injuries after removal. Pathetic evidence of knotted sheets dropped into lightwells having second-story bases which led to no path of escape showed the panic-driven efforts of some occupants to flee the flame, smoke and gases. Death occurred in some cases, but the firemen's ingenuity in hastily throwing mattresses into the lightwells from beds in rooms facing them was rewardingly successful in providing a cushion to break the falls of some who jumped from a floor above.

"As in any holocaust of this nature,

the officers and men worked under such speed, with experienced reactions, and under such punishing and frustrating circumstances that all of the individual efforts of merited accomplishment will never be fully recorded."

The second alarm was sounded at 5:13 a.m., followed at 5:15 a.m. by the third alarm. At 5:22 a.m. two additional ladder companies and a large water tower were special-called. The water tower was set up in Minna Street and fed by six hose lines, and for one and a half hours played a powerful stream into the fire.

At 5:26 a.m. the fourth alarm was sounded and the fifth alarm was called at 5:40 a.m. when the entire southwest part of the building collapsed. At 5:44 a.m., a special call was made for additional pressure on the high-pressure system from the Twin Peaks and Ashbury Reservoirs. This boosted the pressure on the system to 324 pounds.

There were now 247 officers and firemen at the fire. At 6:07 a.m., the seldom-used "10-1" signal was dispatched, cutting response of the fire department to two-thirds of that usual to other fires in the city. When the fire was brought under control at 6:45 a.m., firemen worked rapidly to locate victims, hoping to find some of them alive. The blaze was declared out about 11 hours later. The temperature at the time of the fire was 36°F, which is unusually cold for San Francisco. Many of those rescued suffered from the cold, having left most of their clothing in their rooms when they were evacuated. Most of the rescued were taken to another hotel in the same block.

It is interesting to note that several rooms in the front part of the hotel on Mission Street were virtually undamaged by the fire. There was some smoke and water damage. In several rooms on the fourth floor, the paint was blistered and the paper had come off the walls.

As soon as the fire was under control, the usual calls for official action to prevent further catastrophes of this nature were sounded. Chief Murray has commented:

Continued on page 224

Ladder trucks frame operations from Mission Street building front. Note lines stretched into hotel via fire escape and ground ladders

—Official S.F.F.D. photo by Chet Born

Water tower and ladder pipe operate on rear of building as deluge stream is directed from building roof across street

—Official S.F.F.D. photo by Chet Born

Response to Alarms

22 engine companies
9 truck companies (6 aerials)
6 hose tenders
2 salvage units
2 rescue units
1 water tower

Special Calls

5:14 a.m.—Rescue Squad No. 2
5:22 a.m.—Trucks 6 & 7
5:22 a.m.—Large water tower
5:44 a.m.—Twin Peaks and Ashbury Reservoirs on. Off at 7:11 a.m.
6:07 a.m.—Emergency "10-1" signal—rescinded at 10:45 a.m.

Hose Streams

30 high-pressure streams
22 low-pressure streams
2 batteries, 2 ladder pipes, 1 65-foot water tower, 6 lines, 1½ hours
Total of 15,400 feet of 2¾-inch and 4,400 feet of 1½-inch hose used.

Ammunition explosion in residential garage injures three Dallas fire fighters

By CHIEF C. N. PENN
Dallas, Tex., Fire Department

EXPLODING AMMUNITION during a fire is of serious concern to all fire fighters. In most cases this hazard is found in sporting goods or hardware stores and is seldom thought of as any great consequence at residential fires. A recent incident dispelled this idea from the minds of Dallas firemen and resulted in injury to three fire fighters.

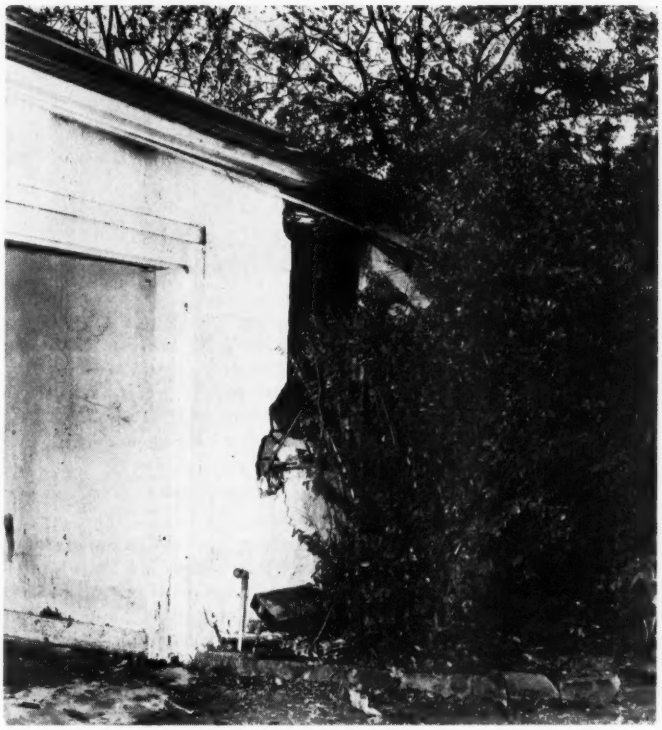
On November 15, 1960, at 2:36 a.m., a fire was reported at 2029 Mayflower. Upon arrival it was found that the blaze was in a one-story building, 10 x 14 feet, attached to a double garage and used for storage. The outer walls were of metal lath and plaster. The inner wall next to the garage was of double-thick sheetrock.

Firemen were standing just outside the building waiting for their lines to become charged when an occupant came out of the house and issued a warning that the building contained some ammunition. Shortly thereafter there was an explosion.

Three firemen were injured by flying objects. One suffered abrasions such as would be made by small shot with the impelling force almost expended; another, a fragmenting piece of metal lodged in the check, which doctors have advised against removing. The most seriously injured received a wound which destroyed most of his spleen. This was from a piece of metal which weighed 2.3625 grams and was 15 millimeters long, 8 millimeters wide and from 1 to 6 millimeters in thickness.

The materials stored in this building included an electric refrigerator, an electric deepfreeze, a 1-gallon glass jug of gasoline, a gallon jug of naphtha, approximately twelve 1-gallon containers of paint, a chest of drawers, a work bench with drawers, several 1-gallon containers of paint thinner, several 1-quart containers of paint, two charcoal grills, a bag of charcoal briquettes, hunting equipment, lanterns, stoves, old clothing and other combustible materials. In addition, a considerable quantity of 30.06 rifle ammunition, a quantity of .38 special pistol ammunition, a quantity of 12-gage shotgun ammunition, an unknown quantity of smokeless powder, an unknown quantity of primers, a complete set of reloading equipment and a considerable quantity of storage which could not be identified.

The owner of the property, in addition to being an avid hunter, is a Reserve Army officer and a veteran of World War II and the Korean War. He definitely identified fragmentary pieces recovered by firemen as being from a 60-millimeter mortar shell which was in his garage and used for training purposes. He stated that the high-explosive charge had been removed but that the activating charge remained. □□



Explosion ripped out window and stripped leaves from bush
—Official Dallas F. D. photographs

Fragments of shell which were deeply imbedded in 2 x 4 timber

The Department Budget—
Opportunity or chore!

By R. MARVIN TOWNSEND

EVERY FIRE CHIEF is annually faced with the problem of preparing and justifying a budget. Whatever the organization, big or small, the problem is the same. The Fire Chief usually comes to a conclusion at this time that his chief administrator or municipal council never understands the fire service or that taxes are of greater concern than the welfare of the people. Is this so? Or might the problem be bad communications and a lack of understanding of the budget process?

A budget is the financial tool through which the long-range goals of the city are transformed through estimated service costs, composed of staffing, equipment, facility, and overhead requirements, into an appropriation which enables each department to accomplish its annual program if the appropriation is spent with the efficiency anticipated by management.

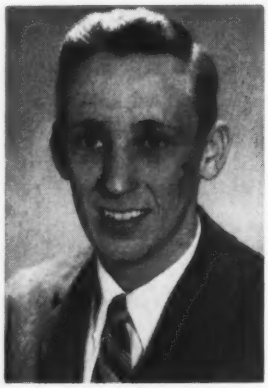
What does this definition mean? To most chiefs the budget is simply a listing of last year's expenditures plus some money for new programs and increased costs. This listing is submitted to the city manager or council who always seem to cut the request to avoid raising taxes. This is exactly what a budget should not be.

The budget should be the chief's everyday companion, constantly reminding him of his long-range and annual goals. Its administration should be a continuous process, involving all supervisory personnel as well as a significant portion of the chief's daily efforts. Since the budget involves work to be accomplished as well as its estimated cost, the actions of every fire fighter as they affect the department's total performance, are a part of the budget process.

Programs or goals

The backbone of any budget is the desired goals of the community, refined by departmental reviews of long-range building, equipment and operational needs. The methods which should be used for these reviews could be the topic of a separate article. Regardless of the process, even if it is just the random thoughts of the chief, this review must and always does, consciously or unconsciously, take place. The long-range program must at least include plans for new fire station construction and the purchase of new and replacement equipment. It should also include manpower coverage goals as well as programs for improving training, safety and personnel performance.

The goals should include what ought to be done as well as what is being done. Thus, the first consideration in the budget process should be how effectively is the department meeting



The author is assistant city manager of Corpus Christi, Tex. He holds both bachelor's and master's degrees in public administration from Cornell University, and has since boyhood had very close contacts with the fire service.

the community's needs. The departmental ratings by the National Board of Fire Underwriters, the State Rating Organization, or in Texas, the State Insurance Commission, and various performance measurement indices to be discussed later will provide helpful information for this review. The adequacy of the departmental program can be graphically portrayed as:

$$\text{Adequacy of Program} = \frac{\text{Actual Departmental Program}}{\text{Community's Needs}}$$

Continuous self-appraisal

The annual budget process should be based on a continuous inventory of manpower, operations, equipment, and stations. The inventory should be summarized as the preparation of each year's budget begins and should include:

I. Stations and Equipment
   a. Review of company locations, considering shifts in population density and land use.
   b. Review of station locations, considering technology.
   c. Inspection of stations to ascertain condition and determine maintenance and custodial requirements.
   d. Analysis of equipment condition and maintenance costs.
   e. Review of communication system maintenance including inter-station and fire alarm systems.

II. Organization, Staffing, and Personnel
   a. Organization review to see that company administration is effective.
   b. Review of all firefighting and non-firefighting positions to insure need and efficiency. Are all assignments correct in regard to responsibility, quantity of work, and community need?
   c. Detailed review of staffing and personnel, including:
      1. Are shift hours adequate?
      2. Is morale satisfactory and are the men in good physical condition?
      3. Are salary and fringe benefits adequate to attract and keep competent personnel?
      4. Is turnover or absenteeism excessive?
      5. What improvements in training have been made and are planned?

III. Performance and Records
   a. Review loss and fire ratios.
      1. Losses per $1,000 of true (market) valuation or per capita or per fire.
      2. Fires per 1,000 persons or $1,000 of true (market) valuation.
   b. Review rating by National Board of Fire Underwriters, rating board or Insurance Commission.
   c. Review all firefighting company records to insure:
      1. Adequacy of training.
      2. Full manpower utilization.
      3. Adequate duty assignments including team or company inspections.

All of the inventory should be completed before any part of the budget request is prepared. The information should be accumulated on simple, but meaningful, forms through carefully designed procedures. Budget forms and procedures in most cities are designed by someone other than the fire chief, but a requirement to use inadequate city forms for final presentation

SUMMARY

Department	Division	Activity	Number
Public Safety	Fire	Fire Prevention	3342

EXPENDITURE CLASSIFICATION	Actual Expenditure 1957-1958	Actual Expenditure 1958-1959	Budget 1959-1960	Estimated Expenditure 1959-1960	BUDGET 1960-1961
100--Personal Services	$ 27,572	$ 28,309	$ 28,523	$ 28,761	$ 28,621
200--Materials and Supplies	1,853	1,864	1,762	1,377	1,650
300--Contractual Services	2,009	620	913	815	817
400--Other Charges	374	593	610	632	655
500--Capital Outlay	5,792	192	2,156	1,668	450
600--Reimbursements					
TOTAL APPROPRIATIONS	$ 37,600	$ 31,578	$ 33,964	$ 33,253	$ 32,193

FUNCTION

The Fire Prevention Unit has primary responsibility for fire prevention activities, which include education, enforcement through fire prevention code inspections, and investigation of causes of fires. This Unit determines the fire's origin, extent of damage, and insurance information, and maintains a permanent record concerning each fire within the City limits. Annual drills at schools and hospitals and periodic inspections of all hazardous areas are included in this program.

PROGRAM MEASUREMENT	ACTUAL 1957	ACTUAL 1958	ACTUAL 1959	ESTIMATED 1960
Inspections	5,426	6,900	9,611	12,000
Violations Noted	5,502	3,528	3,722	4,500
Corrections	4,621	4,400	3,677	4,200
Fire Investigations	542	398	347	340
Visual Aid Demonstrations			41	50
Attendance at Visual Aid Demonstrations			6,379	7,500

PROGRAM COMMENTS

The City again has been able to retain its 20% Good Fire Credit rating. A savings in insurance premium payments of approximately $12,000 is received from each 1% Good Fire Credit.

Supervised fire drills were held for 132 schools with a total enrollment of 80,367. A new program measurement is included this year to recognize the unit's demonstrations to clubs, industry, boy scouts, churches, schools, hospitals, and school custodians. Two of the visual aid demonstrations were presented on television. Increased inspection activity will be carried out through company inspections by the Firefighting personnel, and increased inspections by Fire Prevention personnel.

The Capital Outlay expenditure is $450 for replacement of a mobile radio to meet FCDA requirements. FCDA is expected to reimburse 50% of the radio cost.

Fig. 1. Typical annual budget summary sheet

is no excuse for the chief to use unsound procedures in the preparation of his own budget request. Standard city forms can be supplemented with additional material but budget requests based on information accumulated through inadequate procedures will be difficult, if not impossible to substantiate.

Activities, work units, and costs

The goal in all budgeting is to equate the need for money with something tangible, i.e., either a unit of service or work. Thus, a lump sum or total dollar request, for example $300,000 for fire prevention and fighting, is the most uninformative and inadequate type of budget. Breaking the request down by type of expenditure or object code, for example salaries, uniforms, or station maintenance is an improvement, but only equates money to the item or service being purchased, rather than to the work or service being provided to the public. The most understandable budget is a breakdown of expenditures by the actual work being performed, grouped into activities, such as prevention and investigation, communications, training, shop, administration, and the various stations. Until a method is devised to directly relate activity work units or services to cost, the activity budgets should also be broken down by major expenditure groupings as shown in Fig. 1.

The activity basis presents a clear picture of the total departmental operation to the chief and the public; allows the development of costs or man-hour figures for each work unit of each activity; and enables the chief to shift financial responsibility to the lower supervisory positions, including station captains, so that all responsible officers will better understand the financial limitations and challenges which face the department.

Performance or work units should be developed and estimated with as much or more care as any budget expenditure estimate. The relationship of cost to the planned work is the most significant analysis in the whole budget process.

When it is impossible to equate work or service performed with actual costs, personnel hours or man years should be substituted. Since personnel costs generally average 85 to 90% of the total fire department budget, balancing actual or planned work with the amount of personnel time required to perform the task obtains information almost as useful as actual costs. Typical activity measurement units are:

Prevention and Investigation:
- Mercantile and industrial inspections per inspector
- Violations noted per inspector
- Violations cleared through conviction
- Fires investigated
- Percentage of fire causes determined
- Per cent of arson investigations cleared by conviction

Communications:
- Number of alarm boxes maintained
- Average length of out-of-service due to repair
- Calls received
- Number of pieces of equipment dispatched

Training:
- Hours of instruction per company
- Hours of training per fireman
- Number of different courses held
- Number of men attending out-of-city training conferences

Shop:
- Number of vehicles maintained
- Cost per vehicle maintained
- Number of non-vehicle repairs completed
- Average frequency of pump testing and inspection

Administration:
- Personnel turnover
- Total number of vehicular and non-vehicular accidents
- Number of lost time injuries
- Use of sick leave per employee
- Average number of inspections per fireman
- Departmental fire losses per $1,000 of true (market) valuation
- Fires per $1,000 of true (market) valuation and per person

Each station:
- Fire losses per $1,000 of true (market) valuation and per person in the station coverage area
- Fires per $1,000 of true (market) valuation and per person in the station coverage area

Continued on page 225

What it takes to become a grand award winner

Martinsville, Va., involves entire area year-round in its fire prevention efforts

By LEE GILBERT*

MARTINSVILLE, VA., hasn't had a major fire in more than 38 months. In 1960, the number of general alarm fires in the city was reduced by 26 per cent and loss from fires dropped more than 7 per cent. This is no mean series of accomplishments for this city of 18,000 plus, nestled in the foothills of the Shenandoah Valley. And the reason can be summed up in two words: Fire Prevention.

The fire prevention program carried out by the Martinsville Fire Department in 1960 earned it the top award of the 232 communities of all sizes throughout the nation which competed in the annual contest sponsored by the National Fire Protection Association.

What's behind the Martinsville fire prevention program that results in a major reduction of fires and fire losses, and earns international recognition? Hard work on the part of the entire community, sparked by and under the capable and energetic leadership of its fire chief, Clay A. Easterly. The chief is well qualified to administer the program. A graduate of both Tennessee State College and the University of Tennessee, where he got his B.S. and M.S. in industrial science, Chief Easterly has 25 years experience in fire fighting and fire prevention. But the chief credits the success of the program to the community. "It's based on and promoted entirely as a community fire prevention objective," he says.

A year-round program

While October is traditionally Fire Prevention Month, the thing that makes Martinsville's fire prevention program is that it's in effect the entire year, day in and day out, year in, year out. "Actually," comments Chief Easterly, "Every day of the year, as far as we're concerned is Fire Prevention Day."

Cooperation with industry works to the advantage of the entire community

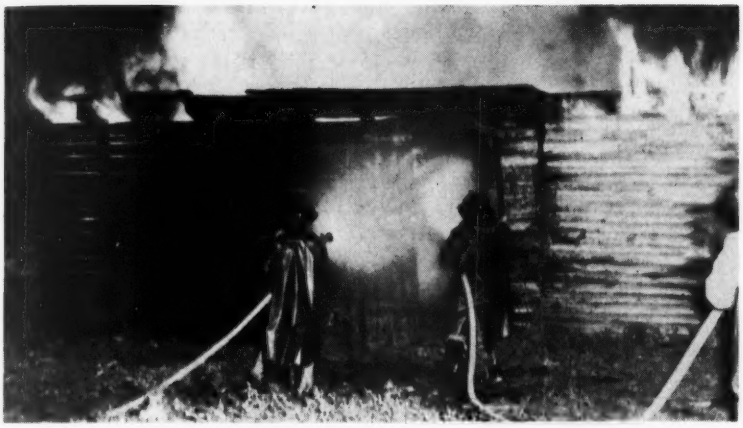
The core of the program is the Fire Prevention Steering Committee, which helps plan and administer the operation on a year-round basis. By its very make-up, the committee reflects the community-wide effort. Members include: A school principal, a radio advertising man, the manager of a retail sales store, the county chief deputy sheriff, a gas utility safety engineer, a furniture-manufacturing company executive, a minister, a fire captain and an insurance executive.

The committee administers the work of no less than 22 divisions of operation, with some 300 or 400 citizens of Martinsville or surrounding Henry County taking part in the actual administration or operation of the award-winning program. It's impossible to particularize what each division does; that would take literally volumes. But it is possible to point out a highlight or two of the program that makes it unique, and so effective.

Activities every month

The program operates on a timel basis, with something going on ever month. March, for example, is whe the fire department issues, through newspaper writeups and radio spot and news announcements, invitations for area residents to call the department for inspection or stand-by service, or both, for open fires in trash, brush o grass. While the department does this year-round, it concentrates heavily on it in March, a windy and dry month.

* News director, Radio Station WHEE, Martinsville, Va.



Training of fire fighters and neighboring volunteers is mutually beneficial

Home Inspections are an important part of Martinsville's year-round program

The results speak for themselves. The first year the department instituted stand-by service on an invitational basis, it received 105 requests; that was in 1958. In 1959, the requests jumped to 282.

September is a big month, too. That's when the department begins teaching and supervising fire drills in all the public schools. And it's the month home inspections start. Each year, again through the newspapers and radio, the fire department invites area residents to have the firemen inspect their homes. The firemen also inspect business occupancies, plants, factories, schools, churches, theatres and auditoriums.

Another special program emphasizes fire safety during the Christmas season. In addition to home inspection, teams of uniformed firemen stand watch in crowded downtown stores. During the 1959 Christmas season, the Martinsville Fire Department did not receive a single call for the usual, anticipated seasonal outbursts: Trees afire, short circuits, chimney blazes from the yule log, or decorations set afire. Not once did fire disrupt the joy of the season.

Junior Fire Marshals

One of Fire Chief Easterly's pet projects is his Junior Fire Marshal program. Youngsters in the first through the seventh grades in the city and county schools qualify as junior fire marshals, and receive a badge and membership card. They report on home inspection programs, distribute Christmas tree safety tags and participate in the Spring cleanup campaign. In 1959, the junior fire marshals made more than 7,200 inspections, read more than 10,500 organization magazines quarterly and participated in department-sponsored classes for babysitters. Seventy-five per cent of all the children enrolled in the city and county schools participated. The city's participation was 91 percent. It was only the second year for the county.

The Junior Fire Marshal program comes under the heading of youth and school activities, which also includes teaching fire prevention in the public schools, school fire department demonstrations, providing films for schools and arranging for special fire prevention projects to coincide with classroom activity.

In one phase of the Public Service Division's many activities, 282 firemen in uniformed patrols of three to seven men stood special watches at 83 public assemblies, attended by 48,835 persons. These gatherings included plays, concerts, industrial plant programs and department store watches during the Christmas season. These patrols keep exits clear, patrol back stage, stand by for emergencies and enforce the local fire code.

Program benefits industry

To the industrial firms of the area, the program means special training programs for plant fire and safety personnel, special promotional material, fire apparatus available to industrial training groups, periodic visits by the firemen to assist in fire protection and prevention programs, special speakers for industrial gatherings, and demonstrations and other programs for plant personnel. In 1959, there were 54 such instances which benefited 4,640 Martinsville area employees. The industrial phase of the program is particularly important because one of the principal industries of the city and county is a hazardous one—the manufacture of furniture.

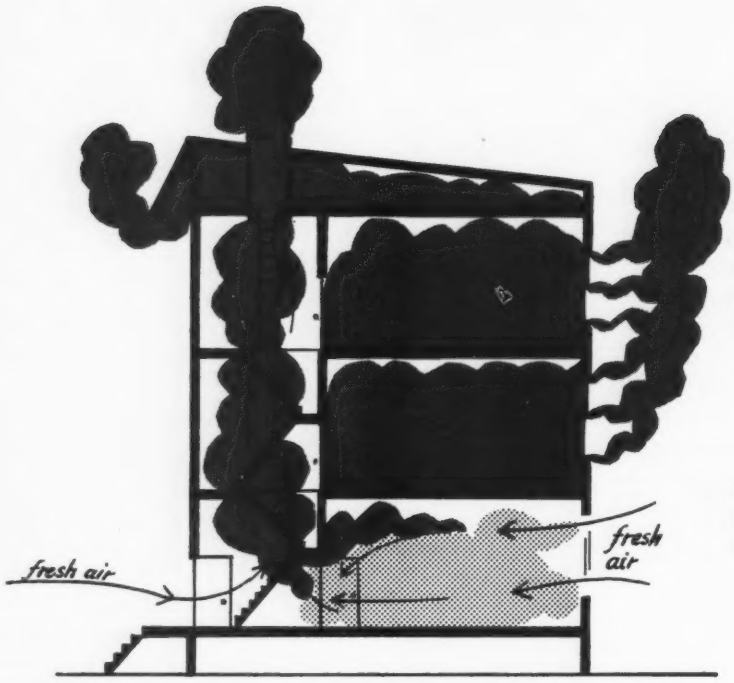
The department, as part of its program, sponsors annually a two-week regional fire school for neighboring volunteer fire companies. Incidentally, Chief Easterly has been the principal driving force behind the organization of no less than five volunteer fire companies in the area in the past 10 years. He organized and trained the companies, which number about 40 men per company, as well as a sixth group, Martinsville's own volunteer fire company. Chief Easterly stresses that training is not restricted to the two-week fire school. "With us," he says, "it's a year-round constant program. Our officers are even engaged in training men for training programs."

Publicity

Since publicity is a powerful force in spreading the lessons of fire prevention, the steering committee arranges for frequent fire prevention talks and demonstrations to civic groups, clubs and other organizations. In 1959, the committee arranged 26 such programs, attended by 2,765 persons. Martinsville's two radio stations broadcast a total of 399 news items and spot announcements; the newspapers contributed 540 column-inches on fire prevention.

The year-round program with timely projects every month, the participation of the junior fire marshals and industry, and fire safety education through publicity are some of the reasons why Martinsville's program has attracted international interest. They are the reasons, partially, why the department has received at least 11 requests for information on the program from communities as far away as Indiana, Kansas and even Oregon. Since National Fire Protection Association officials believe that much of the program is applicable to other areas in the United States and Canada, they invited Chief Easterly to describe it at their 1960 annual meeting.

Chief Easterly says that if he had to submit a summary of the program, he would point to four factors that resulted in its success: Public acceptance and cooperation; an effective year-round inspection program; a well-planned and practical public information program, and the exceptionally good public school participation. □□


2nd & 3rd floors & cock loft not vented. High concentration of flammable gases and carbon particles. Not safe; backdraft conditions.
1st floor & hall well vented & safe.
fresh air
fresh air

Good ventilation and prevention of a backdraft in one portion of a building does not guarantee that a backdraft cannot occur in another portion. Here, only the first floor is safe. Any other portion of the building could explode

Backdrafts—What they are and what to do about them

By BATTALION CHIEF HENRY L. SCHOETTLY*

Newark, N. J., Fire Department

BACKDRAFTS are a constant threat to firemen and every fireman should know something of their nature, causes, forewarnings, and the measures that may be taken to prevent them and protect personnel against them. They are not uncommon at fires, and in many instances it is only a matter of good fortune that more firemen are not injured by their occurrence. A backdraft is a rapid, almost instantaneous, combustion of flammable gases, carbon particles and tar balloons emitted by materials which are burning under conditions of insufficient oxygen.

Except under carefully controlled conditions, no combustion is complete; that is, all the fuel elements of the burning materials are not consumed but pass off into the atmosphere. It is not necessary that a material be aflame to emit these substances. Many combustibles begin to smoke before they actually burst into flame. In such cases there is either not sufficient oxygen to support fire, or the ignition temperature of the material has not been reached. Nevertheless, the gases and carbon being emitted are flammable.

We have all seen, after fires, blistered paint and blackened or partially charred wood, paper and cloth. We are aware that these were never actually afire because we saw no fire at their location, nor was it necessary to apply water to them. Yet it is obvious that they had undergone a change. This was a chemical change wherein the heat from the burning materials distilled gases and carbon.

When we consider this condition along with the fire itself, there is little wonder that flammable gases and carbon are free to some extent at all fires. The degree to which they exist depends upon how much oxygen was present to mix with them (physically) and to combine with them (chemically) by the time the fire department arrived at the scene.

Carbon and tar balloons

In thinking of backdrafts, only the flammable gases are usually considered, and the flammability of the carbon particles and tar balloons is more or less disregarded. We know that any flammable substance when finely divided and dispersed in the atmosphere in sufficient quantity will, if provided with some source of ignition, burn with a rapidity that is almost instantaneous. We know this as a dust explosion.

Certainly carbon particles emitted from a fire are flammable and they are finely divided. In many instances they are present in tremendous quantity. Some of the force of a backdraft may be attributed to the almost in-

* The author is chief of training of the Newark department. This article is adapted from discussion material prepared by him for use by captains during company school sessions.

stantaneous combustion of these highly flammable specks in the smoke, and it is possible that some backdrafts are a combination of a gas explosion and a dust explosion. It is altogether possible and probable that a good percentage of backdrafts are caused by the ignition of the carbon particles which, in turn, ignite the gases, since the ignition temperature of such gases is usually higher than that of the carbon particles (Ignition temperature of carbon monoxide is 1204°F; ignition temperature of carbon particles is 412°F.).

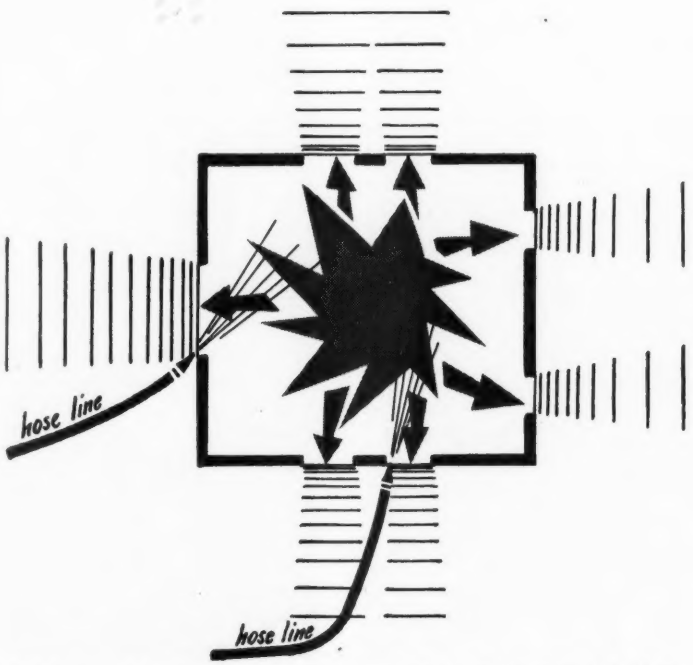
Most fires to which the department responds are in buildings. In cool and inclement weather, and even in some instances in warm fair weather, many of these buildings are closed up. A fire burning in a closed building uses up the oxygen content of the atmosphere in the building fairly rapidly, depending upon the amount and kind of material afire and the heat produced. When the oxygen content is reduced to about 16 per cent, flame (in ordinary materials) cannot exist and the fire is reduced to a smouldering state. However, even in this state, it continues to produce flammable gases and carbon particles.

If buildings are completely airtight, smouldering will become progressively less as the oxygen is used up, until eventually, the fire goes out. Unfortunately, no building is airtight and, although the oxygen is consumed by the fire, enough oxygen-bearing air leaks into the building to nourish a smouldering fire, and the production of flammable gases and carbon particles goes on.

If the fire is hot enough, some of the fuel will be vaporized. When such vapor leaves the immediate vicinity of the fire and cools off even slightly, it condenses back into solid fuel in the same manner in which water, vaporized into steam, condenses back into droplets of water. When fuel vapor condenses, it too takes the shape of droplets, but they are hollow rather than solid and are therefore referred to as tar balloons. These being actual fuel they add to the backdraft just as carbon particles do.

Eventually such a fire will provide itself with an opening by burning through the roof or wall, or its heat will break a window. If this does not happen before the arrival of the department, firemen will provide an opening in attempting to ventilate or in entering the building. Once such opening exists, a new supply of oxygen enters, mixes with the flammable atmosphere in the building and creates the possibility of a backdraft.

The backdraft may be of an incipient nature or of a severe nature, depending on such factors as: The proximity of the opening to the fire; the size of the opening, and the resultant rapidity with which the fresh air is entering the building; the temperature of the gases in the building, and the temperature of the air which is entering; the amount of turbulence in the building caused by wind, hose streams directed into the building, or firemen entering.



The force of a backdraft exerts pressure equally in all directions. The blast issues from the openings at right angles to them, and spreads slightly as the distance from the building increases. The higher the pressure inside the building the greater the spread of the blast when it leaves the building. Direct hose lines from positions close to the walls and to one side of the openings as a safety measure

Importance of temperature

The temperature of the entering air and the temperature of the gases in the building are important factors in the degree of a backdraft. If the incoming air is *not* cold enough to cool the gases below the ignition temperature of the mixture, then all that is necessary for an explosion to occur is that a quantity of gases and air reach the upper explosive limit of the gases concerned. When this happens, the mixture will ignite spontaneously.

It is most likely that under these conditions a backdraft will not be too severe because it will take a comparatively short time for some of the gases and air to reach the explosive limit and the mixture will be comparatively small in volume. Only part of the room or building will contain an explosive mixture since there is not enough time for most (or all) of the gases to mix with air. The explosion will blow the unmixed gases out of the building either through windows which may be broken, or out of the very opening which admitted the air.

If the incoming air *is* cold enough to cool the gases below the ignition temperature of the mixture, then any resultant explosive mixture will not ignite spontaneously but will need a source of ignition. In this case, more and more gases will mix with the incoming air until a great quantity of explosive mixture exists. If the smouldering fire is on the extreme opposite end of the building from where the air is entering, then it is likely that the entire building or room will be filled with an explosive mixture before any of it reaches the fire and is ignited. Because such a great quantity of explosive mixture exists in the building, the backdraft will probably be one of extreme force.

Warning signs

Fortunately, backdrafts do not occur without forewarning. Their very nature creates certain conditions which are discernible to firemen. One indication is unusually thick, black smoke at an ordinary building fire where common materials such as wood, paper, cloth and other cellular materials are burning. The smoke is

Continued on page 216

Chairman Hugh Walker, American La-France, leads discussion during Sustaining Members-President's Advisory Committee as Fred Fischl, Bilateral Hose Co. and Dale Auck, Federation of Mutual Fire Insurance Companies, look on

Manufacturers' representatives participating in Sustaining Members-President's Advisory Committee meeting include (left to right): Dick Bugbee and Art Sullivan, ADT Co.; Seward Scharff, American Fire Alarm Co. Inc.; C. T. McGraw, Circul-Air Corp; Gren Swim, The Gamewell Co.

IAFC Directors outline program

Chief Laurence J. Daly, Detroit, was awarded Home Fire Inspection Plaque for his department's efforts in carrying out successful program

Lewis A. Vincent, general manager, National Board of Fire Underwriters welcoms IAFC directors to luncheon given by NBFU in their honor

Chief William L. Miller, chairman, International Fire Administration Institute (right) congratulates Ontario Fire Marshal Martin S. Hurst on his election as vice chairman

Division secretaries discuss Association administration during workshop. Left to right are Chief Edwin J. Clark, Eastern; Chief Willard Compton, Great Lakes; Chief Walter Messer, New England; Retired Chief Stephen H. Edmondson, Pacific Coast Inter-Mountain; Chief Allan H. Clark, Canadian; Chief Raymond A. Davis, Missouri Valley; Chief Calvin W. Wyrick, Southeastern; Chief T. L. Townley, Jr., Southwestern

"Matt" Braidech, director of research, NBFU and chairman, IAFC Atomic Energy Committee, reports on recent trends in radiation problems and steps being taken to acquaint fire service with them

for increased progress in 1961

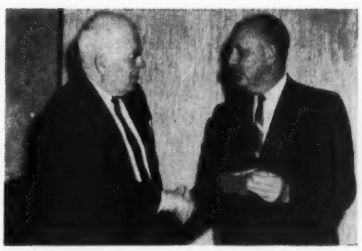
THE BOARD OF DIRECTORS, International Association of Fire Chiefs, meeting at the Hotel Manhattan, New York, on January 15-17, stressed increased participation in national and community affairs as a means of gaining better public understanding of the fire service. The board set a 10-point program of action as follows: (1) More accurate fire reporting in the United States; (2) development of training in personnel practices; (3) extend IAFC public relations program to community level; (4) revise constitution and by-laws; (5) closer relations with U. S. Department of State and other agencies devoted to Inter-American affairs; (6) membership promotion campaign; (7) develop additional sustaining memberships; (8) re-emphasis on home inspections with extension to industry and commerce; (9) recognize Fire Prevention Week by U. S. postal commemorative stamp; (10) increase cooperation with Boy Scouts of America.

During the sessions a number of reports were submitted by committee chairmen. Included were: Communications, Assistant Chief Thomas P. O'Brien, New York; Civil Service Classification, Henry J. McFarland, New York State Civil Service Commission; Fire Administration Institute, Jerome M. Kornfield, director; Constitution and By-Laws, Chief Henry J. Thomas, NBFU; Sustaining Members-President's Advisory Committee, Hubert A. Walker, American LaFrance; Atomic Problems, Mathew M. Braidech, NBFU; Fire Prevention, Jay W. Stevens, director.

Chief Douglas Williams, Las Vegas, Nev., host for the 1961 conference to be held September 25-28 in that city and Chief T. William Heidner, Pasadena, Calif., program chairman, outlined plans for the 88th annual meeting. Chief Clyde Canning, Midvale, Utah, chairman of the Exhibits Committee announced that booking space for the Las Vegas Conference will exceed the record set at Rochester, N. Y.

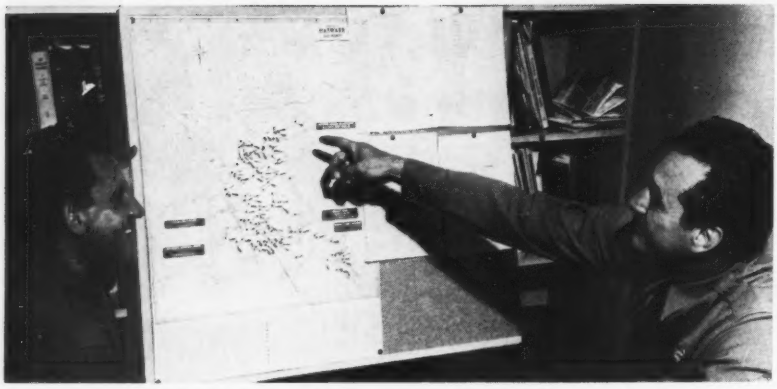
At the conclusion of the board meeting, it was announced that the 1962 conference will be held in Toronto, Ontario, September 24 to 27, with headquarters at the Royal York Hotel. Invitations were accepted to hold the 1963 conference in Detroit, Mich., and in 1964 at Houston, Tex.

For the second consecutive year the division secretaries met at the headquarters office on two days prior to the board meeting. These were workshop sessions chairmanned by Chief Willard C. Compton, Springfield, Ohio, with Chief T. L. Townley, Jr., Norman, Okla., as secretary. □□



Hugh Walker (left), American LaFrance, Elmira, N. Y., receives congratulations of President William J. Taylor on being awarded honorary life membership in IAFC

Chief William J. Taylor presents IAFC honorary life membership award to James L. Arnott, president, Wilson and Cousins Co. Ltd., Toronto, Ont.



Left: Fire Chief Matt Jimenez (right) and Captain Nick Arhontes inspect pin map showing Hayward's fire problem areas where firemen conducted reinspection program. Home inspection drive was aimed at four trouble spots. Right: Some twilight calls paid off. Hayward fire fighter gets a safety sales talk over to mother and children while waiting for dad to return home from work.

—All photos courtesy Hayward F. D.

Hayward attempts to increase home inspection contacts

Evening schedule provides interesting study data but success is disappointing

By ROI B. WOOLLEY

IN THE BUSINESS WORLD there is an old axiom, "if you want to make sales you've got to make calls." In the fire service, the business of "selling" home fire inspections to the householders of this nation has been based upon this theory of taking the story to the home and the homemaker.

That this policy has had favorable reaction generally, few fire officials will deny. At the same time, however, those who have seriously studied the home inspection program and the problem of popularizing it among the citizens will agree that much remains to be done.

On the debit side, there are still some heads of fire departments who just can't see the merits of home inspections, measured against the obstacles they advance as reasons for their failure to support the program. Too, there are millions of homes that have never been visited by a fire fighter on home inspection tour. And there are countless places that have been visited—but "no sale" rung up by the "inspector-salesman." In some cases the visit died aborning when, for any one of a number of reasons, the householder refused permission for the inspector to enter the premises. In others, there was no one at home when the call was made.

This leads us to another business truism: "Few sales are made upon the first call of the salesman, selling direct to the home." One of the nation's progressive fire chiefs who early adopted the home inspection program, and who soon found this out, is Matthew Jimenez of the Hayward, Calif., Fire Department.

The record of home inspections in that city might have suited the average fire chief but not Matt Jimenez. He found upon analyzing his "sales results" that too many calls were unproductive because no one was at home when his teams of inspectors rang the door bells—that, or no one of any authority was at home. According to Chief Jimenez, it was determined that his inspectors found no one at home on 47 per cent of the calls—which totaled 18,634 during the regular daylight tours. "This told us that there remained thousands of homes uninspected, and that our job was only partially complete," said the chief.

Analysis of the uncompleted calls indicated that one way to reduce the number of uninspected homes was to revise the visiting or inspection schedule to conform to the time house-

Statistical Record—Hayward Home Inspections

	1954	1955	1956	1957	1958	1959	1960
Homes contacted	7,629	9,635	12,344	13,912	16,107	17,364	18,634
Homes inspected	2,184	3,847	5,811	7,841	8,642	9,023	9,579
Not at home	3,137	3,782	5,553	5,941	6,294	7,946	8,728
Refused admittance	2,308	2,006	980	490	541	395	327
Number of homes where no hazards noted	1,813	2,357	3,226	5,658	4,717	5,283	6,141
Percentages							
Of total homes contacted inspections made	28.63	39.91	47.08	53.77	63.65	51.96	51.40
Where occupants home, inspections made	48.62	60.47	85.69	93.86	94.11	95.80	96.70
Refused admittance	51.38	39.26	14.31	6.14	5.89	4.20	3.30

holders were more certain to be at home. Not content with his own reasoning, Chief Jimenez got in touch with a local sales firm whose main source of revenue came from direct selling to the home, in short, house-to-house canvassing. Their opinion was that the best time to find an adult at home was in the evening between 6 and 8 p.m., "a time," says Chief Jimenez, "fire service personnel traditionally have used for leisure or study purposes."

So a twilight inspection plan was developed and this was directed at some 2,000 homes in four selected areas which experienced the most fires last year. The four areas accounted for 55 of the 132 home fires during the 1959-60 fiscal year. Of these, 31 were kitchen fires; 22 were caused by children playing with matches, lighters or candles; 17 were electrical fires; 15 due to misuse of flammable liquids and 14 attributed to careless smoking.

On the surface, it seemed like a good idea to adjust calls so as to reach the greatest number of prospects for the inspection sales presentation. But it didn't work out as hoped for. According to Chief Jimenez, "we experienced the situation where the homemakers openly or otherwise, considered the firemen-inspectors as intruders who were interfering with the homeowner's evening schedule or routine, such as dinner, school work, television and the housewives' homemaking responsibilities."

Obviously, the women rushing to get dinner, or preparing children for bed, and the man of the house enjoying his afterdinner smoke and paper or TV program isn't going to exactly welcome the fire inspector regardless of what he has to "sell" or his "sales pitch." Also, not many firemen relish the idea of making calls at this time. All of this led Chief Jimenez and his officers into still further analysis and planning. "Right now, the chief says, "we suggest that if any department entertains the thought of embarking on an evening inspection program, it should be commenced earlier in the year and not during the months of September and October.

Incidentally, an interesting bit of information filtered out of the fire department's study of calls. It was determined that a main problem in not finding adults at home during daytime hours stemmed from the increasing number of employed wives.

At present the fire department is studying the effect of this absence from home on the number of residential fires, together with planning a new approach to scheduling the calls. It is possible that this development is a factor in some home fire starts. □□

Your training expenses may be deductible

By JOSEPH ARKIN, C. P. A.

FIRE OFFICERS and fire fighters who have in the past paid part or all of their expenses for special training courses to improve job skills may now qualify for certain income tax deductions. This is the result of recent legal decisions which have a direct bearing on educational activities.

For many years a fight has raged between taxpayers and the tax collector over the deductibility of educational expenditures. Foremost have been the efforts of school teachers to force the Commissioner of Internal Revenue to liberalize his regulations and interpretations of the Internal Revenue Code. With each successful court case (Lillie Mae Green in the Tax Court, Clark S. Marlor in the Circuit Court of Appeals*), the door has been opened wider for a more realistic treatment of expenses incurred for education and training.

Recently a new set of regulations has been issued for salaried individuals and for self-employed persons. They provide that expenditures made by a taxpayer for his education are deductible if they are for education (including research activities) undertaken primarily for the purpose of: Maintaining or improving skills required by the taxpayer in his employment, trade or business; meeting the express requirements of a taxpayer's employer, or the requirements of applicable law or regulations, imposed as a condition to the retention by the taxpayer of his salary or status.

Expenditures made by a taxpayer for his education and training are not deductible if they are education undertaken primarily for the purpose of obtaining a new position or substantial advancement in position, or primarily for the purpose of fulfilling the general educational aims or other personal purposes of the taxpayer.

How do these new rules apply to the salaried fire fighter? Fire Chief Jones takes a course in advanced fire fighting to aid him in the administration of his fire department; Candidate Smith takes courses which will enable him to take the civil service examination for the position of fireman.

Chief Jones can deduct his expenses because they were undertaken primarily to improve skills by him, but Candidate Smith is not allowed to take deductions for his courses because they are for the primary purpose of qualifying him for a new position. This is just one example to clarify the difference of purpose.

Chief Jones, whose expenses are deductible, can deduct not only the cost of the course, but also the travel expenses to the site of the course, any food and lodging bills incurred while away from home, cost of books, special equipment, etc. There are other aspects of these new regulations. Suppose Chief Jones travels to a city 500 miles from his home to take special training. While in that city he takes a side trip to another city for the purpose of sightseeing or visiting friends or relatives.

In this case his expenses to the city where the course is given are deductible, but the cost of the "side tour" is not. He must allocate the expense for meals and lodging to eliminate the personal portion.

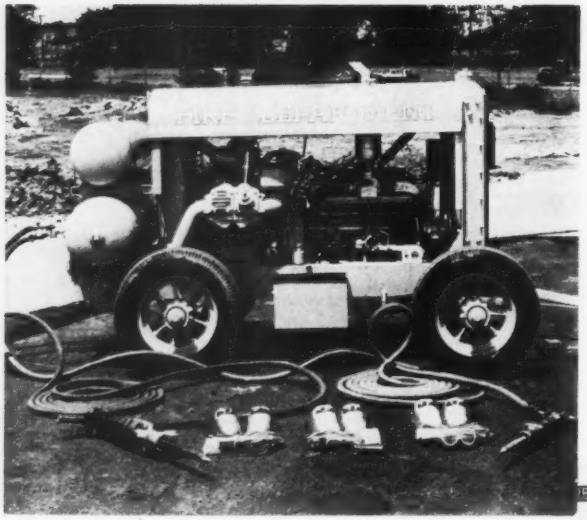
Should the situation be changed—Chief Jones spends five weeks in the city where the course is given, but the course is only for one week, then the government will hold that the primary reason for the trip was for a vacation or other personal reason. Now the only deduction that can be taken is for meals and lodging for the one-week period, and no deduction can be taken for the transportation costs.

These rules are retroactive to the years 1954, 1955, 1956, 1957, and apply from 1958 to date. Claims for refund can be filed by those who have incurred such expenses and who have not taken advantage of this change.

These regulations are of special importance to those fire chiefs or administrators who are required by the terms of their appointments to take courses in specialized fire fighting or fire prevention work. Thus, even if a promotion or pay increase results from the taking of specialized training, the expenses are deductible because they were required by the employer (municipality), and were for the retention of salary, status or employment itself.

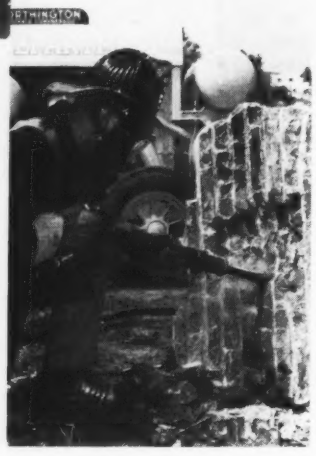
Do you qualify for a deduction? If in doubt ask your tax accountant or lawyer to check on your particular set of facts and types of expenses incurred. □□

* Robert S. Green and Lillie Mae Green, 28 TC 135 (1957); Clark S. Marlor 27 TC 624 (1957), sustained on appeal in the 2nd Circuit, Marlor v. Commissioner.



Portable compressor and equipment employed at training school for practice purposes. Unit is also available for fire emergency upon call

▲ *Instructor teaches students use of air hammer at school area. Rubble from Baltimore buildings being demolished provides excellent practice material*



◀ *When Baltimore fire fighters become familiar with air-operated tools they learn to employ them while wearing self-contained breathing apparatus. Training foresees possible use in heavy smoke*

—*All photos courtesy Baltimore F. D.*

Baltimore adds air compressor to equipment roster

BALTIMORE recently added an air compressor and hammer to its varied techniques of fire fighting and included training in its use at the fire school. This equipment is mounted on a closed-body truck and stationed at the department repair shop. The truck is equipped with two-way radio and responds to all third and greater alarms of fire, as well as being subject to special calls at all times.

The equipment carried includes a compressor with a capacity of 60 pounds of free air, one 60-pound air hammer, one 35-pound air hammer, one 100-foot and two 50-foot sections of ¾-inch air hose which can be coupled together to make one 200-foot line. Various sizes of cement points and chisels, metal toe guards, safety goggles and leather gloves are included.

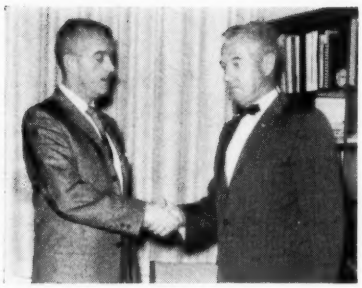
The air hammers are used to breach walls, cut through concrete roofs and floors for ventilation, fire fighting or rescue operations. This is a great improvement over the old cement point and maul method, taking into consideration the labor and time involved. When it was necessary to breach a wall or floor, other departments such as public utilities, equipped with pneumatic tools were called upon to perform this task if they were available.

Team training in use of equipment is stressed as soon as company members are acquainted with tools. Truck in background is compressor unit which responds to fires

Complementing the air unit, a portable air compressor is being used to train Baltimore firemen in the use of air hammers at the Baltimore Fire School and an extensive training program is conducted by instructors. The training includes the proper procedures used to cut holes in brick walls and concrete floors and roofs.

Training by doing

During training in the use of the air hammers, fire fighters practice on large sections of brick walls and concrete slabs, which are removed to the fire school from buildings being demolished. The training also includes the proper use of safety goggles and metal toe guards and leather gloves. To get the men accustomed to the handling of the equipment, the use of tools is taught first. In subsequent instruction periods masks are used in conjunction with the hammers. The compressor unit used for training at the fire school is also available at any time it should be needed for a city fire emergency. □□



Hospital administrator O. E. Roehl, left, thanks Fire Chief Loren R. Beech for setting up program for Beverly Hospital

Nurse instructs employees how to transmit fire alarm, which is stressed as primary responsibility

Montebello conducts course in hospital fire safety

Advance planning is stressed and every employee participates

"WHEN FIRE STRIKES, the actions taken during the first few minutes make the difference between containment and catastrophe." With these words, Fire Chief Lorne R. Beech of Montebello, Calif., offered his department's technical assistance to develop a fire safety and evacuation program in Beverly Community Hospital in Montebello. Chief Beech recognizes that an efficient fire protection program calls for long-range planning, based on the participation of the hospital employees. The Montebello Fire Department therefore conducted a course in fire safety evacuation at the hospital during December.

The hospital recently completed a building and modernization program, which increased its capacity from 80 beds to 165 beds, four major surgery rooms, an emergency receiving section and dental surgery office.

The Fire Prevention Bureau devised the course to fit the hospital and worked hand in hand with its administration in planning for evacuation of patients and fire safety procedures. Because of the difference in structural design of most buildings, a plan which might suit one hospital could be wholly unsuitable for another.

Special booklet prepared

The bureau prepared a 15-page booklet for distribution to all the hospital's employees. The booklet, which contains a fire inspection report form, was used as the text for the course. It covers emergency procedures, evacuation organization, and fire control.

The Civilian Defense Office in Montebello coordinated its training program of radiation protection and disposal to coincide with the department's course at the hospital to insure their ability to handle an emergency involving radioactive exposures.

General instructions

The Montebello department, in its outline of the basic method of procedure, lists four steps to be taken: (1) If fire is in patient's room, remove patient. Close the door, windows and transoms; (2) Go to nearest fire alarm box and transmit alarm, which notifies fire headquarters. Alert the switchboard operator by phone, giving location of fire by room number or section; (3) Return to fire and use extinguisher until the fire department arrives; (4) Remove patients from adjoining area.

The booklet expands on the outline, setting forth the general procedure to be followed. It points out that the first person to respond has a two-fold responsibility: To remove anyone in immediate danger and to sound the alarm. The next two or three to arrive assist in removing any other persons in danger, and use first-aid fire fighting equipment. The five or six persons in what may be called the third wave close doors and windows, shut off equipment that might spread fire, reassure the patients, and assist the first group to accomplish whatever is most important at the moment.

It may be asked, where does all this help come from? As soon as a fire is discovered and the switchboard operator alerted, a coded announcement is made over the hospital's paging system. In general, one person from each area adjacent to the fire location reports immediately to that section. The plan is in effect round-the-clock, and the supervisor of each area is responsible for assigning personnel to this duty at the beginning of each shift.

The plan then gives detailed instructions for all hospital personnel—professional, clerical, engineering and maintenance. Some are assigned to respond to any fire anywhere in the hospital, while others respond only if the fire is in their area or threatens it. For example, in the event of any fire, engineering and housekeeping personnel are required to take action which is spelled out in detail in the plan. On the other hand, those working in the business office or pharmacy are required to take specific action only if fire or water threatens their areas.

Continued on page 249

Can you give "Yes" answers to all these

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Q. Is the facepiece designed to prevent lens from fogging?

Q. Does the facepiece provide a means for mounting and adjusting prescription glasses inside the facepiece without affecting the seal?

Q. Is there a molded lip inside the facepiece to provide a comfortable leak-tight fit on a wide variety of faces?

Q. Does facepiece have a chin stop to eliminate improper positioning and wearing discomfort?

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Q. Is pr
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MSA Back

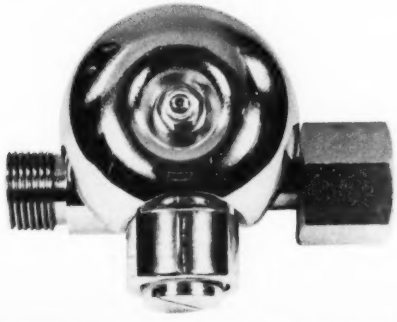
questions about Breathing Equipment?

Q. Is pressure relief valve mounted externally so that any excessive pressure vents safely to the atmosphere?

Q. Is diaphragm in regulator designed to serve as its own seal without using cement and a piece of string?

Q. Is by-pass valve flow internal rather than through a fragile piece of tubing mounted externally?

Q. Is hand-wheel on cylinder valve in an easily accessible horizontal position?



The AUDI-LARM (audible warning device) can be put on new or old apparatus without any special assembly or removal of parts.

MINE SAFETY APPLIANCES COMPANY
Pittsburgh 8, Pennsylvania

MSA

MSA Backs Up Its Label with Selection, Quality, Research, Experience

What's new . . . among the manufacturers

products · processes · personalities

IH Engine Fan Control

The Motor Truck Division, International Harvester Co., 180 North Michigan Avenue, Chicago 1, Ill., has developed an automatic electro-magnetic clutch fan drive for its heavy-duty V-8 engines. Located behind the fan, it is activated by a sensitive thermostatic control located in the coolant stream.

The control is preset and is said to engage and disengage the clutch between desired engine temperature limits. Claimed advantages include increased usable horsepower when free wheeling, increased fuel savings, easier starting and quicker warm-ups.

Improved Portable Tank

Can-Pro Corporation, 19 East McWilliams Street, Fond du Lac, Wis., has modified its Dump & Go portable reservoir to make the tank stronger, easier to empty and quicker to reassemble after use. A 10-inch-diameter drain tube replaces the obsolete flood gate emptying system, and the No. 8 canvas tank is now fastened to the folding steel frame with 3/32-inch wire sash cord for extra security and strength. These two new features are claimed to add greatly to the life of the portable reservoir and make it far easier to use.

New Amblewagon Models

Automotive Conversion Corp., 2191 Cole Avenue, Birmingham, Mich., has announced that its ambulance and rescue car conversions will be available for practically any 1961 station wagon. Regular production is now proceeding on Dodge, Plymouth, Chrysler, Mercury, Ford, Rambler, Chevrolet, Pontiac, Oldsmobile and Buick wagons.

Fyr-Fyter Wheel Chock

The Fyr-Fyter Co., 221 Crane Street, Dayton 1, Ohio, is marketing its Worden-Style "Grip Lock" safety chock, a lightweight wheel chock for fire apparatus. Made of hollow die-cast aluminum, it is said to be ruggedly constructed for hard usage and is claimed to provide positive holding power for vehicle safety. It is available in two sizes for heavy equipment and light trucks.

ABT Spray Container

ABT, the after-burn treatment developed by E. D. Bullard Company, 2680 Bridgeway, Sausalito, Calif., is now available in a pocket-size (20 cc) spray container. It is also packaged in 3, 5 and 11-ounce spray containers.

Motorola Consolette

Motorola Communications and Industrial Electronics Division, 4501 West Augusta Boulevard, Chicago 51, Ill., has announced a new Consolette station for use in the 25-54 mc or 144-174 mc bands.

The desk-top station provides 25 watts power output when utilized with systems operating on high-band frequencies, and 30 watts when on low-band frequencies.

Portable Ladder Tester

Hydraulic Systems, Inc., 1321 Airdrie Street, Philadelphia 40, Pa., has introduced what is said to be an automatic portable ladder-testing machine weighing 25 pounds.

The machine applies up to 600 pounds of thrust to ladder rungs. It is claimed the operator can determine the breaking point of the rung by observation of the direct reading gage.

American LaFrance Delivers Turbine Ladder to Seattle

The world's first turbine-powered aerial ladder truck was recently delivered to the Seattle, Wash., Fire Department. Built by American LaFrance, Elmira, N. Y., the 100-foot aerial is powered with a 330-hp Boeing turbine engine weighing 325 pounds, which is claimed to give the 16-ton apparatus exceptional starting, accelerating and hill-climbing speed. The Seattle truck is said to be equipped with 10-inch brake shoes and fitted with a selection device for brake application on dry, wet or icy roads according to the conditions. Seattle was the first community to order a production turbine-engine-powered motor vehicle.

New Burn Spray

General Scientific Co., 1 Safety Center, Philadelphia 50, Pa., has introduced G-63, said to be a fast-acting, effective aerosol spray for burns. Employing Hexachlorophene and an analgesic agent, it is packaged in 8-ounce spray-on cans.

Engelhard Bilge Bug

Engelhard Industries, Inc., 75 Austin Street, Newark 2, N. J., has introduced its "Bilge Bug," a fixed combustible gas indicator designed primarily for use aboard boats, but said to be useful in industry and other hazardous locations. Operating on 6 and 12 volts d.c., it employs two platinum wire sensing elements connected by cable to a remote control and indicator panel.

New Goodrich Tire

B. F. Goodrich Tire Company, Akron, Ohio, has introduced its BFG Silvertown all-purpose traction tire designed to provide good traction in both reverse and forward motion. Said to feature nondirectional tread patterns, it is available in either Tyrex or Nylon construction.

Narrow Band Filter

Collins Radio Co., Western Division, 2700 West Olive Avenue, Burbank, Calif., has introduced a new mechanical filter which is said to permit easy modification of FM receivers to match ±5 kc transmitter deviation as specified under FCC narrow band technical standards. Designated the F455YA-120, the new 2-inch by 7/16-inch-diameter filter is said to be permanently adjusted with a 455 kc center frequency and a passband of 12 kc. Sharp cut-off characteristics are claimed to keep adjacent channel interference to a minimum.

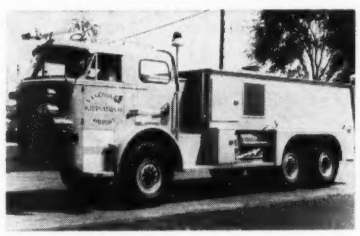
Ansul Predicts Increase in 1961

The nation's fire extinguisher industry, which produced an estimated $40 million worth of approved fire equipment in 1960, should show a sizeable increase in 1961, Robert C. Hood, president of Ansul Chemical Company, said in a year-end statement.

New Coast Guard regulations banning certain vaporizing liquid fire extinguishers as toxic, will go into effect at the end of 1961, Hood pointed out, but aggressive selling efforts by the industry in the next 18 months should produce approximately $10 million in marine fire extinguisher sales alone. This should more than offset a possible slight decline in sales of fire equipment to industry, Mr. Hood said, adding that Ansul expects to increase its share of the total market.

New DuMont Mobile Unit

Allen B. DuMont Laboratories, divisions of Fairchild Camera and Instrument Corporation, Clifton, N. J., announces a 15-watt version of its recently developed Transicom two-way radio for use in the 144-174 mc band. The new under-the-dash-mounted unit features a fully transistorized power supply and split-channel design.



Vancouver Crash Truck

A "first" in Canada is this giant LaFrance crash, fire and rescue truck recently delivered to Vancouver's International airport.

A prototype of similar units used in the United States, the Canadian-built fire truck features the latest in fire fighting equipment, including ground-sweep nozzles and cab-mounted turret foam nozzle capable of producing 4,500 gpm of foam.

Equipped with two-way radio for direct contact with airport control towers, the six-wheel drive vehicle has a "fighting weight" of 21 tons, and doubles as an auxiliary pumping unit for fighting airport building fires. A 6-cylinder, 175-hp motor powers the 750-gpm pump.

The aluminum truck body is mounted on huge Goodyear earthmover tires—normally used on heavy construction equipment—to give it improved flotation. Despite its heavy weight, the vehicle is capable of speeds up to 65 mph, powered by a 6-cylinder, 330-hp Continental motor.

Appointments and Promotions

Howard Cotter III, Narberth, Pa., has been appointed direct factory representative for the Elkhart Brass Manufacturing Co., Inc., Elkhart, Ind. He will cover eastern Pennsylvania, New Jersey, Delaware, Maryland, Virginia and the District of Columbia. Associated with the industry since 1947, he was employed by Elkhart prior to becoming deputy fire marshal of Lower Merion Township, Montgomery County, Pa., which position he left to rejoin the firm.

L. R. Wangler has been named Indiana distributor for S&S ambulances and professional cars by The Hess & Eisenhardt Company, Cincinnati, Ohio. His headquarters and service facilities are at Warsaw, Ind.

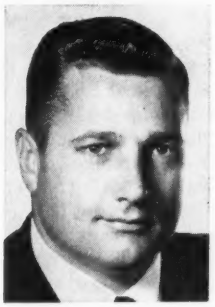
E. W. Sehon, Delhi, La., has been named distributor for S&S in Louisiana, Mississippi and Arkansas.

Ned R. Albaugh, Richmond, Va., has joined **E. E. Calvin,** Beltsville, Md., and will distribute the S&S line in the Middle Atlantic States area, including Virginia, Maryland, Delaware and West Virginia.

A. M. Sonnabend, a Boston financier, was recently elected chairman of the board, the Seagrave Corporation, Columbus, Ohio. He is also chairman of Botany Industries, Inc., and president of the Hotel Corporation of America. He replaces Leslie E. Roberts who resigned due to ill health. Roberts was also acting president of the firm.

Arnold A. Saltzman was elected president of the corporation at the same time. He is also a director of Botany Industries, Inc.,

Richard K. Brown recently was elected president, National Welding Equipment Co., 218 Fremont Street, San Francisco 5, Calif. He succeeds Ernest L. Mathy, who has retired but will continue to serve in an advisory capacity.



He has been associated with the firm for the past decade serving an salesman, sales manager and recently as vice president and general manager. □□

BACKDRAFTS

Continued from page 205

thick and black because of an extreme lack of oxygen, which causes carbon particles to find their way into the atmosphere in great quantity. This also indicates that generous amounts of flammable gases are being emitted.

Caution is required if upon arrival at a fire it is found that the weather boards or other outside wall materials are hot, or even fairly warm, and little or no fire is in evidence. This indicates that a smouldering fire has been burning in the building for a considerable length of time and has driven off large quantities of gases which are still within. It is assumed that the building is still closed up, or that the surface heat is not due to fire in the wall where the heat is detected.

If upon arrival, the windows of the building can be heard rattling, very much like in a heavy wind storm, it is usually an indication that backdraft conditions exist and that an explosion can be expected momentarily. This sound can be heard at only a short distance (5 to 6 feet). The actual cause is not definitely known but experience indicates that the condition is a definite warning sign.

If upon attempting to look into a building through window glass, it is found that visibility inside is practically nil, and yet no fire is in evidence (or perhaps a faint orange glow can be seen through the smoke), it is reasonable to assume that a fire has been smouldering for some time in order to produce sufficient smoke to result in such poor visibility, and that dangers exist.

It is possible that backdraft conditions may not exist upon arrival but develop when firemen are in a building, or that the above warning signs are overlooked in the excitement and hurry to get into the building and extinguish the fire. At any rate, firemen may be in a building when backdraft conditions begin to develop.

Fortunately, there are also warnings which are discernible on the inside. Every fireman knows the approximate appearance of fire. If asked, he may describe the color of the flames as orange yellow or reddish orange and will say that the flames appear lively. If inside the building the flames assume a pale or sickly yellow hue, and seem to lose their liveliness, appearing somewhat like a slow motion picture, it is an indication that the fire is becoming oxygen-starved and that flammable gases are being emitted.

It may also be noticed by firemen that suddenly one becomes aware that things do not sound normal. Voices lose their resonance and words seem to be clipped off short. Bells of incoming apparatus do not seem to have a clear tone and sirens have a strangely muffled sound. This condition is probably due to the combustible gas content of the building, and to the fact that these gases do not transmit sound as readily as the normal atmosphere.

A further development of this condition may become apparent in that part of the fire on which no water has yet been directed diminishes in intensity or the flames subside completely. This indicates that oxygen in the atmosphere is extremely low and backdraft conditions will develop quite rapidly.

Assuming the conditions are recognized upon arrival, every effort will have to be exerted to prevent the backdraft from occurring. Prompt and proper ventilation is in order, but even this cannot be relied upon to absolutely prevent the backdraft. In fact, there is no sure, guaranteed method of prevention. We can only ventilate in accordance with prescribed methods, and perhaps attempt to cool down the atmosphere and drive out flammable gases by use of fog streams directed into the building from the outside; then hope for the best.

Personnel safety

So long as we have no positive method of knowing whether or not such efforts will be successful, it is foolhardy to enter a building until one of three things happens: (1) Ventilation working in accordance with theory, whereby the heat, gases and carbon particles are escaping through top openings and being replaced gradually by fresh air entering the other openings. In this case it will be apparent that smoke is clearing out, visibility is becoming good, and the fire is burning normally; (2) gases are reduced to the point where they do not explode but fresh air is entering in sufficient quantity and with sufficient rapidity to cause the fire to suddenly burn with great intensity and vigor; (3) a backdraft occurs. An explosive gas and air mixture takes place in spite of preventive measures.

Once one of these things has happened, it is safe to enter *that portion of the building*. It is possible that other portions are still ripe for a blow. Each enclosed section of the building must be treated as a separate, potential backdraft area.

In the interest of safety, while waiting for one of the above to occur, personnel should not stand in, or directly in front of door, window or other openings. It is safest if they do not stand within the V-shaped force pattern which will emanate from such openings. The gaseous products of the backdraft will expand as they come through the opening due to the lesser pressure of the atmosphere outside the building.

If hose streams must be played into such openings, men on the nozzles should position themselves alongside the opening and close to the wall of the building, or direct the hose streams from a distance of at least 25 feet, at which distance the force of the backdrafts will have diminished considerably. Window glass, window frames and other debris are usually not thrown more than this distance from the building.

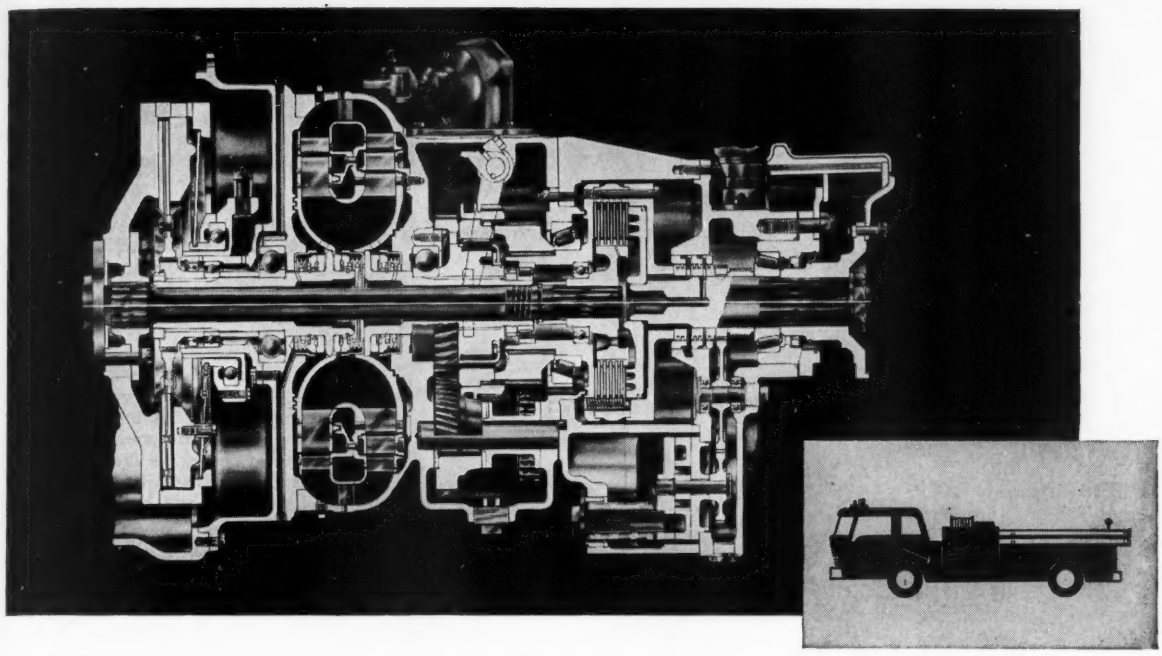
If firemen are inside a building when backdraft conditions develop, they should leave as quickly as possible after they have recognized one of the forewarnings. If it is too late to leave because the explosion has begun, drop to the floor in a prone position. Men who have had the experience of being caught in a backdraft testify they could see it coming. They invariably describe the occurrence as beginning with what appears like a reddish, rolling mass of fire which rapidly increases in size and spreads throughout the entire enclosure, overtaking them in its course of travel. While the force is evident from floor to ceiling, the fire itself usually comes only to within a few feet of the floor. Men who drop prone are usually not burned nor are they thrown about by the force, whereas those who remain standing are not only burned on exposed skin surfaces, but thrown considerable distances, sometimes through doorways, down shafts or stairways.

Backdrafts should be ever in the minds of firemen at fires. All warning signs should be heeded promptly and all possible precautions taken to protect personnel, for even with the utmost care an occasional accident will occur. When it happens, it will at least be gratifying to know that everything possible was done to prevent it and to protect ourselves. □□

Rescuer Gets Ticket And Judge's Praise

A judge in Newark, N. J., Traffic Court dismissed an illegal parking charge against Leonard Scott of East Orange, N. J., after he read the following note, which the patrolman who issued the ticket, wrote on the back of the summons: "The above-mentioned car was parked in a crosswalk at the scene of a bad fire. Driver had parked car here, sent fire alarm and then rescued two children from burning apartment house. Above not known by officer when summons issued."

"You should have gotten a medal instead of a ticket," the magistrate said.



Spicer 183 Turbo-Matic For Year 'Round Reliability

From hilly San Francisco to teeming New York City—wherever fire fighting equipment is operated—unfailing reliability is of prime importance. There's one heavy-duty transmission that can give you this reliability always . . . the Spicer 183 Turbo-Matic.

The secret of Turbo-Matic reliability is its fundamental simplicity of design. By multiplying available engine torque as much as 5.6 times, the torque converter features of the 183 Turbo-Matic automatically help bring your fire fighting equipment quickly and smoothly to the optimum range for top speed and maximum fuel economy.

When your fire fighting equipment reaches cruising speed a hydraulically operated clutch by-passes the torque converter and couples the drive shaft directly to the engine. So, regardless of load or terrain, you get fast, smooth, uninterrupted acceleration at all times.

With the 183 Turbo-Matic the accelerator is the only necessary control. Mental and physical hazards of emergency high-speed driving are materially reduced. Driver training time is cut to a minimum . . . with further savings to you.

Write for the free illustrated booklet—No. 806—which describes the features of the 183 Turbo-Matic transmission. Or, ask the Dana engineers to help you adapt it to your fire fighting vehicles.

DANA Spicer

DANA CORPORATION

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Serving Transportation—Transmissions • Auxiliaries • Universal Joints • Clutches • Propeller Shafts • Power Take-Offs • Torque Converters • Axles • Powr-Lok Differentials • Gear Boxes • Forgings • Stampings • Frames • Railway Drives

Many of these products are manufactured in Canada by Hayes Steel Products Limited, Merritton, Ontario

The round table...

Discussion of current fire department and fire management problems

School Fire Prevention Practices

THIS IS THE final installment of the Round Table on fire prevention practices in the schools.

Readers are invited to submit comments on next month's subject, which is described in a box on a subsequent page, as well as on the current one. Address replies to Round Table Editor, FIRE ENGINEERING, 466 Lexington Avenue, New York 17, N. Y.

The Discussion

Joseph Weigand, Chief Fire Marshal, Naperville, Ill.: Our department (a paid-on call department) frequently inspects both public and parochial schools, as well as the colleges located in Naperville and the rural schools located in the Naperville Fire Protection District. A total of 15 schools come under the department's jurisdiction. Legal means are at our disposal but encouragement from school administrators creates proper working conditions.

Sprinklers have been recommended for several buildings and the order complied with. These buildings are connected with the station through their sprinkler alarm system but other buildings are not.

Smoking in the teachers lounges is a matter for the school to decide but the department limits smoking to these quarters only.

A program for the entire teaching staff of all the Naperville schools was initiated the past year at the kind invitation of the superintendent of schools and also presented for the rural school teachers and Catholic nuns. The program consisted of a series of slides taken in Naperville showing the right and wrong of fire drills; another series showing the activities of the department; the presentation of the department rules concerning school fire drills and the showing of the Chicago school fire film entitled "Why?" Such a program met with much interest and was witnessed by the assistant state fire marshal at the department's invitation.

Fire drills are held at the department's discretion in uniform or in regular clothes, announced or unannounced, and set off by firemen carrying master drill keys. Firemen never leave the premises without reviewing the drill with the person in charge. School officials are provided with postage-paid cards on which they are expected to report the fire drills they have in their respective buildings without department representation. A separate file is kept on every piece of correspondence ever written on each school.

Periodic fire prevention programs have been presented at the request of the schools by members of the department. Perhaps this might seem routine, but it is interesting to know that no fireman has ever been reimbursed for any effort concerning fire safety in Naperville schools.

Edward J. Spolnik, Chief, Hammond, Ind.: Bureau of fire prevention personnel inspect each school in their assigned territories once a month. The chief inspector inspects all schools prior to drawing up the school city budget, so that money for necessary recommendations can be appropriated. Legal authority by virtue of state law applies only to public schools. Parochial school inspections and corrections are made on an "invitation and cooperation" basis.

Automatic sprinklers or automatic fire detectors are not required in school buildings.

While direct connection between interior fire alarm systems of the schools and fire alarm headquarters is not a requirement, all 32 schools both public and parochial have, since the Chicago school fire, been connected through master boxes purchased by the city for public schools and by each parish for parochial schools. There was no direct connection prior to the tie-in. We feel that this has been the greatest forward step taken in our school fire safety program. Next year, we will ask for automatic fire detectors to be tied into the present system.

Smoking is permitted in teachers' lounges only and is limited to members of the faculty.

Custodians of each school always accompany inspectors during their inspections. By so doing, we find that many recommendations can be cleared up on the spot. It also tends to familiarize them with any unsafe conditions existing in their own school.

Percy Wellman, Chief, Jamestown, N. D.: We annually make public and private school fire prevention inspections. This is done on an "invitation and cooperation" basis.

We do not require automatic sprinklers or automatic fire detectors in school buildings; our local people think it too costly.

We are a volunteer fire department and do not require that school fire alarm systems be connected directly to fire alarm headquarters.

Smoking is not permitted in our teachers' lounge rooms.

We have an excellent training program that is available to all teachers and janitors but only *one* grade school takes advantage of it. The rest of the teachers are too busy with sports programs or "know it all" and think it's a waste of their time.

E. W. Fields, Chief, Omaha, Neb.: Public and private schools are inspected in Omaha semiannually by members of the Omaha Fire Department. We do have the legal authority to inspect these schools and to order corrections of any violations which are found.

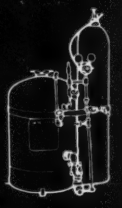
The school fire prevention code, which is a state regulation, basically requires some form of automatic protection or detection, but the extent of the required coverage in buildings varies with the construction of the building and whether or not the vertical openings are enclosed.

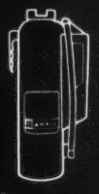
According to our present law we do not require school fire alarm systems to be connected directly to the fire alarm headquarters, but the department has requested the city legal department to

Continued on page 246

THIS MONTH'S QUESTIONS

- **Do you regularly schedule public and private school fire prevention inspections? If so, do you have legal authority to inspect these schools and order violations corrected or are the inspections made on an "invitation and cooperation" basis?**
- **Do you require automatic sprinklers or automatic fire detectors in school buildings?**
- **Do you require that school fire alarm systems be connected directly to fire alarm headquarters?**
- **Do you permit smoking in teachers' lounge rooms and similar restrooms?**
- **Do you have a program for instructing teachers and school janitorial help in the rudiments of fire prevention? If so, briefly outline the subject matter.**





257 of the 500 largest U.S. corporations rely on ANSUL for basic fire protection. Thousands of other companies, large and small, have found the right answers to their fire protection problems in Ansul's complete line of fire extinguishing equipment.*

*We'll be happy to send you our latest catalog describing in detail Ansul's line of hand portable dry chemical, carbon dioxide and water extinguishers, wheeled, stationary, mobile units and automatic systems.

Your local Ansul Man is a trained fire protection expert, available to survey your plant and counsel on your fire protection requirements. Call him for an appointment (he's listed in the "Yellow Pages") or write ANSUL CHEMICAL COMPANY, Marinette, Wisconsin.

ANSUL

Fire Equipment
Refrigeration Products
Industrial Chemicals.

Move in close, and stay there . . .
in heat reflecting gear

How close can you get to a fire—and hold your position? You can approach with conventional clothing, but in seconds your coat is smoking, and you must retreat. But now, protected by "Scotch• Shield" Aluminized Fabric that reflects 90% of radiant heat, you can move in closer than ever before, hold your position safely, and comfortably as long as necessary to control the fire! And it's ideal protection for top laddermen who can't retreat from flashbacks. Flexible, lightweight, "Scotch•Shield" Fabric garments that let you move freely and act quickly anywhere around the fire are used by hundreds of departments. This fabric is one of history's most important advances in protection for firemen. On the opposite page there is detailed information about this fabric.

SCOTCH·SHIELD
BRAND
ALUMINIZED FABRIC

Fire Fighters Assist Railroad to Make Steam

Auburn, N. Y., firemen of Engine No. 3 recently assisted the New York Central Railroad to make steam to keep passengers warm aboard the "Wolverine," a Chicago-to-New York passenger express train which had run out of water. The crack limited was delayed en route by a freight derailment on the main line of the railroad and used up the 3,000 gallons of water it carries for car heating purposes while being rerouted via the Auburn branch.

The train was stopped near the quarters of Engine 3 while fire fighters hooked up a hydrant line to replenish the tank. Although coupling threads do not match, firemen solved the problem with a Cooper jacket.—*Chief Luke J. Bergan*

Report Issued on Plastics In Building Construction

Southwest Research Institute recently released a detailed report of its year-long study of fire safety aspects of plastics in building construction. The study, sponsored by the Plastics Group of the Manufacturing Chemists' Association, Washington, D. C., was directed by Calvin H. Yuill, Fire Technologist of the Institute.

The actual and potential uses of plastic building materials in a single-family residence and in a multistory office building are considered and discussed in terms of the fire safety requirements of buildings, the means by which control is exercised through building codes, and the effect of such controls on product utilization. The aim of the plastics industry to assure safest use of its products in building construction and the means of achieving this objective within the framework of building codes are examined and recommendations presented.

The report points out that on the one hand the building official must learn the significance of terms relating to classes and types of plastics. He should know the meaning of terms such as thermosetting and thermoplastic . . . and familiarize himself with the basic types of plastics, and the form in which they are used in buildings. He should recognize terms used within the industry to distinguish between plastics that are alike in appearance but differ widely in other important characteristics.

On the other hand, the producers must learn the terms of reference under which building officials operate and the importance of a mutual understanding and acceptance of definitions.

The term "self-extinguishing," for instance, has been used within the plastics industry for many years to differentiate between plastics that continue to burn after ignition. and those that burn only while exposed to a small test flame. The term itself and the test method upon which it is based are not related to conditions of exposure in building fires and any attempt to use it in that manner can only lead to confusion.

While the report states that many of the fire safety standards incorporated in building codes are based upon arbitrary definitions of fire hazards, it also presents recommendations that will undoubtedly benefit fire and building officials as well as the plastics industry.

It points out, for example, that smoke emissions, toxic gases, and deformation under fire exposure are areas in particular need of study. It recommends as a corollary that additional research be directed toward improved product performance in areas where hazards may exist. The report states that the plastics industry at present is particularly active in this effort. It also recommends a concerted effort to obtain information on the reaction of plastics in actual building fires.

The report contains an extensive bibliography. One section lists literature on the use of plastics in buildings; another, fire safety and building design; a third, plastics and fire safety; and still another, plastics and fire hazards.

Copies of the report are available at $5 each from William Demarest, at the Association, 1825 Connecticut Ave., N. W., Washington 9, D. C.

How much—what type of Reflective clothing does a department need?

Many airport departments have equipped their entire force with "Scotch·Shield" Fabric garments. However, two suits are providing basic "starter" protection for other departments. Approach and proximity jobs can be performed with reflective hoods, bunker coats and pants, and gloves—rescue jobs with complete "entry" suits.

What is

SCOTCH·SHIELD BRAND ALUMINIZED FABRIC

It's a fabric made of pure aluminum vapor-coated on lightweight rayon, asbestos, or glass cloth. Its bright aluminum finish reflects 90% of radiant heat. "Scotch·Shield" Fabric is extremely flexible and resists stress or tearing, won't peel or crack. Durability far exceeds other fabrics given equal heat exposure. It produces reflective-protective garments lighter than conventional bunker clothing—it eliminates the need for bulky insulation type gear. Return the coupon for literature describing "Scotch·Shield" Fabric and its uses in firefighting.

Try this heat test . . . within seconds the conventional bunker coat smoldered . . . "Scotch·Shield" Fabric garment protected for the duration of the 100 gallon spill fire!

Where can you buy

SCOTCH·SHIELD BRAND ALUMINIZED FABRIC

Garments made from "Scotch·Shield" Fabric are available through your regular fire equipment suppliers. Or you can secure the name of fabricators by checking the box in the coupon below.

Minnesota Mining and Manufacturing Company
Dept. RBX-31, St. Paul 6, Minn.

☐ Please send me additional information on "Scotch·Shield" Aluminized Fabric.

☐ Please send names of firms manufacturing "Scotch·Shield" Fabric garments.

Name_____

Title_____

Fire Dept. or Firm_____

Address_____

City_____ Zone____ State_____

MINNESOTA MINING AND MANUFACTURING COMPANY
...WHERE RESEARCH IS THE KEY TO TOMORROW
ST. PAUL 6, MINNESOTA

False alarms

Wishful Thinker

The newlywed was proudly explaining to his shift all the gifts he and his spouse had received. He finished by exclaiming, "—and I got a French poodle for my wife."

The old grouch, dozing in a corner, overheard only the last remark and added, "Boy, I'd like to make a trade like that!"

A policeman strolling his beat at 3 o'clock in the morning noticed Plug-wrench sitting on the front steps of his house.

"What are you doing here at 3 a.m.? asked the officer.

"I've lost my key," said the fire fighter, "and I'm waiting for my children to come home and let me in.

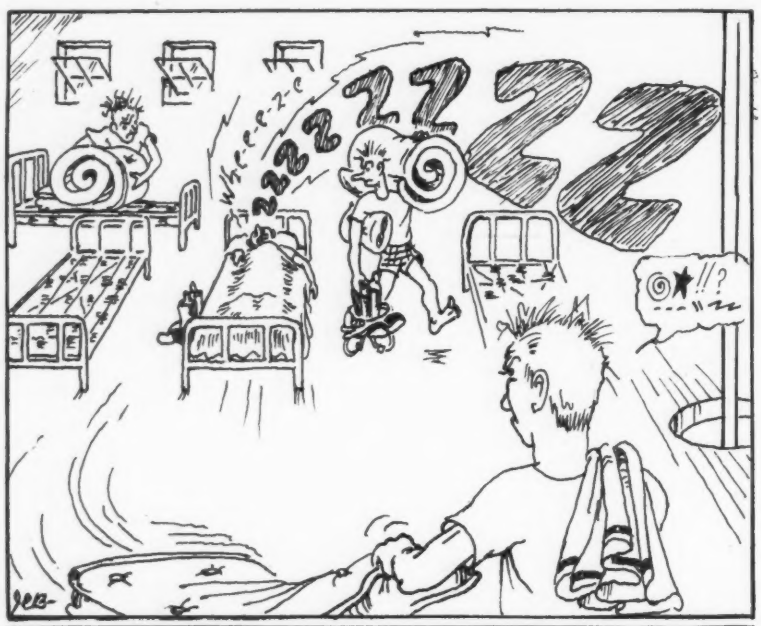
"You've got a pretty place," said the departing guest. "But it looks a bit bare yet."

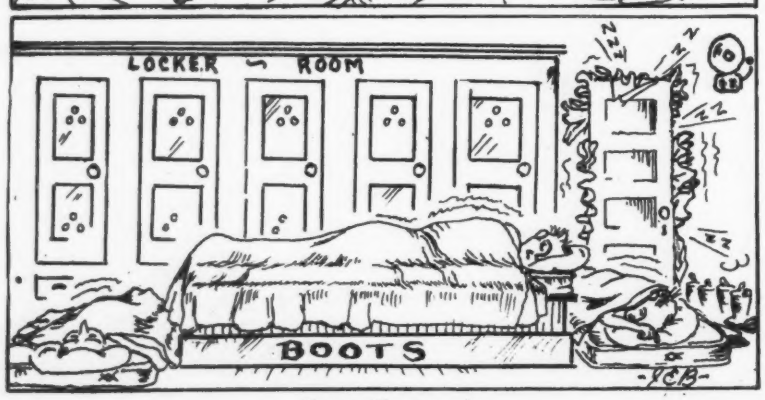
"Oh," explained the host, "it's because the trees are rather young. I hope they'll have grown to a good size before you come again."

Incompatible

Kinkchaser was having trouble with his wife so he consulted a lawyer about a divorce. The attorney, trying to convince his client that there was still hope for reconciliation, suggested he think over all the good things he and his spouse had shared over the years.

"It's no use," exclaimed the fire fighter, "why we don't even hate the same people anymore."





Song without words

Hardrock was having a hard time riding home one evening on the bus. At one instance he exclaimed, "Please, madam, you're standing on my foot."

"Well, why don't you put your foot where it belongs," rejoined the woman passenger.

"Don't tempt me, lady—don't tempt me," was his aggravated reply.

Most Agreeable

Kinkchaser had been busy learning the manly art of self defense when the local Benevolent Association announced a smoker would be held complete with amateur boxing bouts. Egged on by his buddies, he brashly agreed to be a participant with Plug Wrench acting as his second.

Shortly after the bell sounded for the bout, his opponent landed a solid smash and our hero was stretched out flat on his back.

Leaning through the ropes Plug Wrench screamed at his tiger, "Don't get up until 8."

Weakly the would-be pugilist agreed and then asked. "What time is it now?"

The young lady visited a doctor. After he had finished his examination the doctor said:

"Mrs. Jones, I have good news for you."

"I beg your pardon, doctor," said the lady, "but the name is 'Miss' Jones."

"Oh," said the doctor, "well in that case, Miss Jones, I have bad news for you."

"I don't want to scare you," said the eight-year-old to his teacher, "but my daddy says that, if I don't start getting better grades, someone's gonna get a spanking!"

The man who brags, "I run things in my house," usually refers to the lawn mower, vacuum cleaner, washing machine, baby carriage and errands.

Proper Identification

A windy politician was delivering a lengthy oration when a fussy baby began screaming at the top of its lungs. When the mother started to leave the audience with the child the politician addressed her and said, "Never mind the baby, lady, it doesn't bother me a bit."

"The baby may not be bothering you," tartly rejoined the mother, "but you're sure bothering the baby."

Master of ceremonies introducing the local coloratura soprano, "She is the product of a very expensive musical training. Her father was sued by three different neighbors at the same time."

NOW! A high-quality FM two-way mobile radio for only $419!

The General Electric Pacer...

. . . the all-new two-way mobile radio that gives you every advantage of quality FM communication at the low, low price of only $419.00.

The General Electric Pacer gives you communication range comparable to more expensive sets. Its low battery drain (the lowest of any in its class), of 4.2 amps means no special generator, no heavy duty battery, longer battery life. A real money saver!

It is lightweight and small enough to fit even in the new compact cars with ease. Installs in minutes. *And, of course, you get the full communications quality of FM radio built by General Electric!* Channel Guard protection against nuisance calls and skip signal interference also available at extra cost.

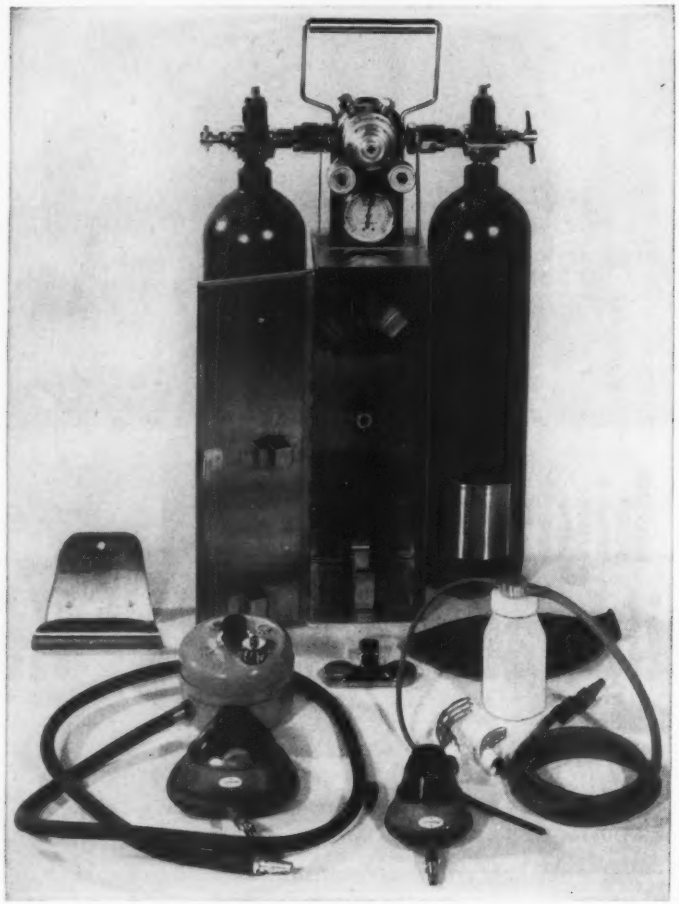
To learn the complete details on the low-cost General Electric Pacer, look under Radio Communication, in the Yellow Pages of your classified telephone directory. Or write: General Electric Company, Communication Products Dept., Section 1231, Lynchburg, Va.

GENERAL ELECTRIC

EMERSON Resuscitators

Ambulance Model

rides upright — to use minimum space



Showing components removed from stainless steel cabinet. Very convenient for use in transit — or may be carried easily by its handle.

Simple, safe and economical.

You can count on an Emerson to help you save lives.

→ *Please request Form FA-1*

J. H. EMERSON CO.

CAMBRIDGE 40, MASSACHUSETTS, U. S. A.

HOTEL FIRE

Continued from page 198

"We have had innumerable fires of this type, in buildings of this character, in the past. By good fortune, relatively rapid notification to the fire department, and providential absence of other contributing circumstances, these fires were contained before the tragic results of the Thomas Hotel were reached. There isn't the slightest doubt in my mind that the delayed alarm contributed heavily to the life loss.

"It is ironical that our fire prevention bureau had been working diligently to obtain retroactive legislation, stirred by the disastrous Chicago school fire, to force stair and hallway enclosures to prevent a fire occurrence of just such magnitude. Now, with tragedy, indignation has been aroused in official and public circles. The resistances to the legislation enactments have subsided, at least temporarily, to enhance the prospects of corrective legislation."

In paying tribute to the fire fighters under his command as well as to the San Francisco policemen who assisted right from the start he stated:

"Devotion to duty may be a trite expression but never in my career have I seen it so outstandingly exemplified as in this memorable though tragic fire." □□

November Fire Losses

Estimated fire losses in the United States during November amounted to $84,340,000, the National Board of Fire Underwriters has reported.

According to Lewis A. Vincent, NBFU's general manager, this $84,340,000 loss represents an increase of 7.3 per cent over losses of $78,582,000 reported for November 1959, and a decrease of 9 per cent from losses of $92,730,000 for last October.

Losses for the first 11 months of 1960 now total $1,005,921,000, an increase of 5.8 per cent over the first 11 months of 1959, when they amounted to $950,629,000.

These estimated losses include an allowance for uninsured and unreported losses.

AAR Fire Protection Section Dissolved

The Association of American Railroads has announced that effective January 1, the Fire Protection and Insurance Section was dissolved. Activities which had been conducted by the section for many years will now be transferred to appropriate committees of the Association's Engineering and Mechanical Divisions and to the Bureau of Explosives.

FIRE DEPARTMENT BUDGET

Continued from page 201

Average hours of training per day per company
Average miles run per day per company
Number of vehicular and non-vehicular accidents per company
Number of lost-time injuries per company
Dwelling and mercantile units inspected per fireman

The comparison of the quantity of work units proposed with the units of accomplishment for the last three years will give a clear indication of the effectiveness of each activity and tell whether or not each segment of the department is doing a better job of meeting the community's needs.

$$\text{Effectiveness} = \frac{\text{Actual Performance}}{\text{Planned Program}}$$

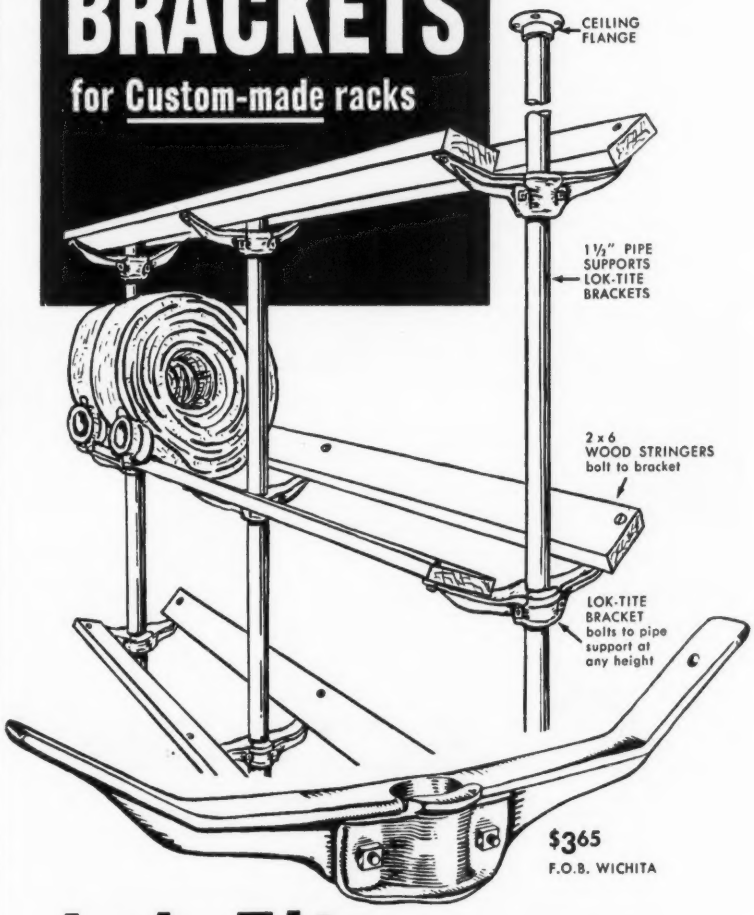
Presentation

Only after the program is carefully developed and every possible step taken to improve performance should the chief consider selling the budget. Selling will be simple if the preparation has been thorough. Unfortunately, many chiefs prepare sound budgets based on careful visual analysis and discussions with their men, but fail in the written presentation.

The budget request should:

a. State the goals or programs of the department.
   1. Viewed against local fire and loss records.
   2. Compared to national averages and the standards of the National Board of Fire Underwriters, state rating board or Insurance Commission.
b. Show the effect on the departmental program of mutual aid agreements, required or voluntary protection of outside city industry, and the availability of reserves or volunteers.
c. State major changes in program concepts and costs. Operational improvements proposed or recently completed should be emphasized, especially if future costs will be reduced or services improved.
d. State the actual request, including:
   1. Departmental organization chart.
   2. Departmental staffing chart, showing shifts and positions.
   3. Function of each activity or unit.
   4. Work program of each activ-

HOSE
BRACKETS
for Custom-made racks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1½" PIPE SUPPORTS LOK-TITE BRACKETS
2 x 6 WOOD STRINGERS bolt to bracket
LOK-TITE BRACKET bolts to pipe support at any height
$365
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Convert waste space to valuable storage

LOK-TITE brackets are ideal for odd dimension areas where ready-made storage will not fit. LOK-TITE brackets encourage good housekeeping . . . assures easy hose inspection and correct ventilation. LOK-TITE brackets are approved by fire hose manufacturers and fire departments everywhere.

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Please send me_____brackets @ $3.65.

NAME_____

STREET_____

CITY_____ STATE_____

- Simple to install
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ity or unit in easily understandable terms.

5. Detailed request by activity showing comparison with actual or estimated expenditures of the previous three years.
6. Personnel detail showing requested man years by position and salary grade with comparison for previous three years. Each position should be justified even though it may have already been justified in each previous request.

e. Compare activity work programs and proposed costs with actual programs and costs in each of the last three years, relating work units to specific costs where possible or to man years.

f. Prepare one set of priorities for all departmental requests. If additional money is not available, old programs should possibly be deleted so that new programs can be initiated. It is vital that the chief carefully determine his overall priorities, since budget officers, city managers, and city councils usually follow the chief's priority recommendations.

g. Be thorough. Show that a critical self-analysis has been carried out.

h. Be accurate. The first "pad" detected casts doubt on the entire request. For example, if the cost of cleaning floors is erroneously estimated at twice what it should be, the budget officer will review all other detailed requests with extreme care.

i. Relate all expenditures to basic needs; e.g., hose requests should not simply state that 2,900 feet of 2½-inch hose are needed but rather the purchase of 2,900 feet of 2½-inch hose is needed to maintain existing hose assignments and to provide 1200 feet of service hose and 100 feet of substitute hose for one requested additional company.

For example this may be stated as shown in box.

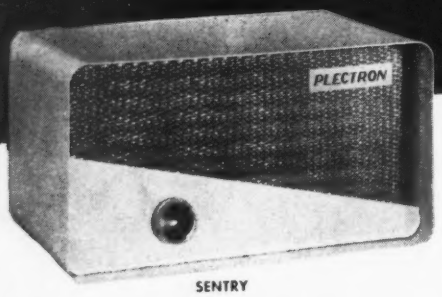
Inventory Status of 2½-Inch Hose

3 residential companies—2 loads x 600 ft. each—	*3,600 feet*
1 residential company—2 loads x 1,000 ft. each—	*2,000 feet*
2 high-value companies—4 loads @ 300 ft. each—	*2,400 feet*
substitute hose—10 per cent of service hose—	*800 feet*
spare hose—7 loads @ 600 feet each—	*4,200 feet*
Total Required	*13,000 feet*
Balance on hand beginning of previous year	*12,500 feet*
Purchased during year	*2,000 feet*
Total Available	*14,500 feet*
Failed to pass annual test	*1,500 feet*
Available end of previous year	*13,000 feet*
Request Replacement (8-year average life)	*1,600 feet*
New Residential Company—2 loads x 600 feet	*1,200 feet*
Plus 10 per cent	*100 feet*
Total Request	*2,900 feet*

Such a presentation clearly shows the need for 2,900 feet of hose and the method by which the request was determined.

Presenting a budget to finance a program already familiar to management and the council is much easier than selling new, undiscussed concepts. It is an all-year sales job. Living within the current year's budget and preparing a good annual report are as much a part of the budget selling job as justifying a power estimate. The chief must first sell his program, its needs, and benefits, and then, show the city fathers what it will cost.

When seconds count . . . .



CRYSTAL CONTROLLED (25-54 mc)

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SENTRY

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RADIO TONE ALERTING SYSTEMS

SAVE

TIME LIVES PROPERTY

With a TONE Activated receiver in each fireman's home office or shop you can be certain that each member will receive the alarm messages in a prompt efficient manner.

With PLECTRON Tone Activated Receivers you get all of the normal features PLUS these extras at NO EXTRA CHARGE.

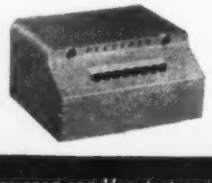
AUTOMATIC / MANUAL RESET . . . . The user can select either operation as desired.

ADJUSTABLE TIME DELAY . . . . . The "live" time can be adjusted from 20/90 seconds.

REMOTE SPEAKER OUTLET . . . . . Remote speakers may be used in other areas, up to 300 ft.

DISTINCTIVE NEW TONE GENERATOR

To provide the tone to activate the home receivers and alert the firemen, a NEW Fully Automatic Tone Generator has been designed by PLECTRON.



- Fully Automatic
- Transformer Powered
- Intermittent Tone
- Monitor Speaker

Designed and Manufactured by

PLECTRON CORPORATION

Overton, Nebraska

Conclusion

The fire chief must consider budget administration as a continuous and vital process. Only after a thorough inventory and analysis of all operations and a careful review of long-range programs and goals should the department's budget request be developed. All supervisory personnel, as well as representatives of the finance or budget office, should take part in this review.

The development of sound units to measure work proposed or services to be rendered compared to estimated costs is the most satisfactory method of budget preparation. If the records of prior years and the abilities of the department will not support this type of presentation, the work or services to be performed should be balanced against the personnel to be used through what is called a man-year approach. Regardless of the method, the budget preparation process must be thorough and realistic.

If the department thinks constantly about its long-range goals, selling the budget will be a simple process. The easiest budget to sell is one which requests a reasonable step toward the attainment of long-range goals which, throughout the year, have already been sold to management and the council. The preparation of a sound budget with adequate supporting information so that the city manager and council can properly balance each request against the other needs of the community, for example, a new fire truck against a park development program, more library books or additional street paving, is as essential as any other duty of the chief, including fire fighting leadership. □□

Fire Losses Up 5.8 Per cent over 1959

Estimated fire losses in the United States last year rose to $1,107,824,000, the highest dollar amount of loss in the nation's history, the National Board of Fire Underwriters reported.

The 1960 total was 5.8 per cent above the $1,047,073,000 for 1959, and 4.9 per cent higher than the $1,056,266,000 for 1958. It was the fourth year in a row that fire losses exceeded the billion dollar mark.

For the month of December 1960, fire losses totaled $101,903,000, an increase of 20.8 per cent over the $84,340,000 for November 1960, and an increase of 5.7 per cent over the $96,444,000 for December 1959.

The National Board fire losses are based on monthly reports from member companies. These reported losses are adjusted to reflect the uninsured and unreported losses.

THE MINUTE THAT WAS FOREVER FOR THE FACE AT THE WINDOW

The ladderman had a brief glimpse of a terror-stricken face at the window. Just as he reached it, the floor collapsed and the face disappeared.

But it wasn't that final minute which decided the fate of the face in the window—it was one of the seven minutes it took to pull the hose off the pumper and get water on the fire.

Bi-Lateral flips off the pumper faster because it's more flexible, and because it folds flatter. Bi-Lateral construction allows *more* hose on each pumper—enabling you to cover more fire, faster. Save time—save lives —with Bi-Lateral.

Bi-Lateral construction saves you *more* than precious minutes, because the same flat-folding feature is responsible for the protection of the lining. This means you replace it far less often—*you save precious dollars, too!* Bi-Lateral costs less per foot per year.

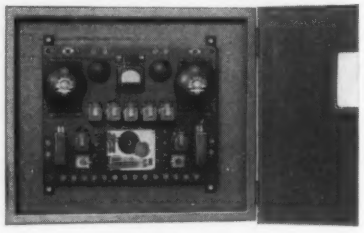
Bi-Lateral FIRE HOSE COMPANY
20 N. Wacker Drive • Chicago 6, Illinois

Many of today's otherwise modern schools are protected by inadequate fire alarm systems. They rely wholly on visual fire detection, require manual operation and provide no automatic means for calling the fire department. Often fires are well advanced before discovery.

Isn't it time we planned for maximum protection instead of simply meeting minimum state requirements? Isn't it time we stopped compromising the safety of our children to save a few dollars?

Only interested citizens can correct this widespread practice. In the meantime, Autocall will continue to build up to a standard and not down to a price. We refuse to produce inadequate fire protection equipment at the expense of snuffed-out lives.

Autocall's Type SA School Alarm System far exceeds minimum requirements . . . offers advanced security features you won't find in any other system. A letter will bring you complete information. There's a nearby Autocall representative to explain the advantages.



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SAFEGUARDS MILLIONS

THE AUTOCALL COMPANY • SHELBY 6, OHIO • OFFICES IN PRINCIPAL CITIES

Among the buffs

PROBABLY NO COLUMN written since I took my monthly perch here has elicited more comment than the recent one concerning Paul Vaillancourt, fire equipment engineer, an inmate of the state prison at Walla Walla, Wash. (June 1959). A number of readers of this column answered Paul's request for material with which to further his knowledge of his profession. Some of Paul's penpals were buffs, some were firemen, and some were manufacturers of fire equipment.

Paul has written this column frequently. His latest letter reports that he has received "three concrete offers of jobs from three fire equipment firms." He believes he may accept one of them from a firm in Florida. Paul said that had it not been for his friends in the fire service his Christmas holidays would have been bleak indeed.

Since Paul was first mentioned in this column, he has been transferred to the trusty quarters, and he is hoping for parole in March 1961. Paul said, "I will read and answer any and all letters from readers of your column who wish to write me."

The holiday season was, as usual, enlivened by a large number of cards and remembrances from fans, fire officers, and buff clubs around the country. Among those who sent cards were:

Ken Tindall, Moorestown, N. J.; Edward R. Gore, president Trenton Fire Department, Firemen's Mutual Benevolent Association, Local No. 6; Fire Chief George Bertsch, United States Military Academy, West Point, N. Y.; Association of Auxiliary Firemen of Manhattan, Inc; Leslie E. Keller, Gil Jory, and William A. Murray (who sent a photo of Ex-Hose Co. 5, Baltimore Fire Department); Gary R. Pohzehl, Tonawanda, N. Y.; Box 113 Club, Pontiac, Mich.; some group in midtown Manhattan which edits and publishes a magazine called FIRE ENGINEERING; Eleanore and Nich Dionisia, Firemen's Home, Hudson, N. Y.; Los Angeles City Fire Department; John Lee Turner, secretary, Friendship Fire Association, Washington, D. C.; Tom and Martha Jewett and Buff, Kansas City, Mo.; A. "Smokestack" Hardy, Baltimore, Md.; and Gene Chapman of Hobby Mats, Balsam Lake, Minn.

Gene Chapman also stopped by during the holidays to visit me at the office. Gene accompanied a group from Minneapolis which jetted to Los Angeles for the Tournament of Roses Parade and the Rose Bowl game following the pageant. He has been a loyal follower of this column for years and it was the first time we had met. Many of the cards received

this year came from Gene's sparetime hobby, "Hobby Mats".

Also among those who remembered the holidays were Commissioner James N. Smith, Chief Delmar E. Davis, and Lieutenant Thelma R. Williams of the S.H.C. Association, Inc., 1813 McCulloh Street, Baltimore 17, Md. Commissioner Smith also announced that the Baltimore Fire Department Communication Unit was installed in the club's quarters during the year. The club is celebrating its 12th birthday. "We have come a long ways," said Commissioner Smith, "thanks to the Baltimore City Fire Department."

New York City's Third Alarm Association has revised its constitution to make associate memberships available to buffs in New York City or elsewhere.

"Such members," reports Editor Bernard Grandjany, editor of the club's *Third Alarmer* will enjoy full privileges of the association. "They will be bound by all rules and regulations of the TAA constitution and by-laws, and the Official Action Guide. They will not have to regularly attend meetings and/or fires, and there will not be a probationary period imposed." Details and application forms are available from William F. McCarthy, Chairman of the Membership Committee, TAA, 374 Wadsworth Avenue, New York 30, N. Y.

Civil and Architectural Engineer Harry H. Catching, 216 Ridgeway Road, Lexington, Ky., writes that he is building on a scale of 1 inch to the foot, certain of the old steam equipment.

"I have secured some fairly detailed description of the Clapp & Jones engine from the H. V. Smith Museum of the Home Insurance Company from which the boiler and engine could be reproduced. What I lack are certain basic dimensions like diameter of wheels, width of tread, diameter and height of boiler overall, distance from front axle to rear axle, etc.

Brer Catching appeals to buffs for help with such material. "The more details the better, although the reproduction need not be of a certain type or make of engine. It could be a composite."

Until press time again next month, please continue to send your editorial contributions and personnel experiences along the fire buff line to me at 4234 Don Diablo Drive, Los Angeles 8, Calif. I regret that letters cannot be answered, other than through this column. □□

Fuller Heads Rescue And First Aid Group

M. Lloyd Fuller, Dallas, Tex. was elected president of the International Rescue and First Aid Association at the recent 13th Annual Convention in Philadelphia, Pa. Other officers elected include first vice president, Frederick Evans, Arnprior, Ontario; second vice president, Theodore W. Hart, Plainfield, N. J.; recording secretary, Paul O. Metcalfe, Greeneville, Tenn.; and treasurer, J. B. Taliaferro, Jr., Tappahannock, Va. The 14th Annual Convention will be held at the Hotel Roanoke, Roanoke, Va., November 2 through 4, 1961.

Out with the Smoke In with the Crew

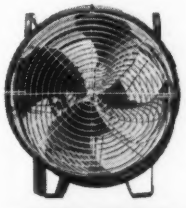
Case Study J-652*

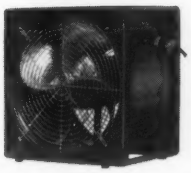
And down goes the damage with a Super Vac Smoke Ejector

The weather was freezing cold* the afternoon of January 24th when a Pennsylvania fire squad answered the call of a sporting goods store fire. The stockroom had been ablaze three hours before discovery. Attack was made initially from front and rear of store *but was impossible even with masks,* so dense was the smoke. A Super Vac Smoke Ejector, in use with the B . . . Fire Company only one month, was put into immediate operation. Alarms were sent in for additional Smoke Ejectors. The super vacuum effect of the propeller blades sucked out the smoke, permitting the fire squad to *see and fight the fire.*

Chief John H. . . said later: "Without the use of Smoke Ejectors, this fire would have taken longer to control."

**Write for your copy of the complete report of this actual fire from the Super Vac files. Ask for all-new literature on new models, new housing, improved blade performance.*

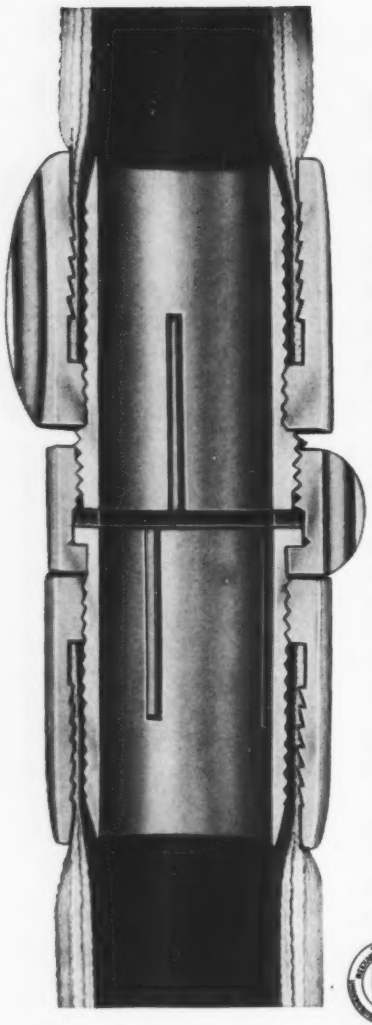




BOTH ROUND AND SQUARE HOUSING NOW AVAILABLE

All Smoke Ejectors are now shipped with the "Plus 21" 4-bladed propeller, redesigned to increase air volume by 21%. Specify either round housing, or the new square housing (no increase in housing price). Super Vac accessories include: running board mounts, hangers, flexible duct and adapter rings. See your Super Vac dealer or write to factory.

SUPER VACUUM MANUFACTURING CO., INC.
1055 East First Street / Loveland, Colorado / NOrmandy 7-5146



Put BAR-WAY in your "specs"

THE REUSABLE HIGH PRESSURE COUPLING THAT GIVES A QUICK, SURE CONNECTION FOR ALL TYPES OF JACKETED HOSE.

The simplified streamlined design of this precision coupling, which is basically the same as that of your booster hose, guarantees full flow, full pressure and ease of handling under all conditions. Fast emergency hose repairs can also be made in the field if you specify Bar-Way for original application.

Demand Bar-Way reusable couplings on your jacketed hose and watch your efficiency go up and the cost go down.

1 ½" and 2 ½" Conventional Wing Lug in production. All other standard sizes and lug styles available. Special engineering applications on request.

UL **TESTED for 1400 lbs. pressure and 2400 lbs. pull under full pressure.**

BAR-WAY **BAR-WAY MFG. CO., STAMFORD, CONN.**

Write for descriptive literature
Dealer Territories available

The
"HOME ALARM"
RADIO ALARM SYSTEM

The Modern Dependable Alarm System for
FIRE DEPARTMENTS
– CIVIL DEFENSE –
EMERGENCY SERVICE

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HOBBY ENTERPRISES, INC.
17 Second Ave., Bayshore, N. Y.

Questions & Answers

Multiple-Choice Problem

To the Editor:

In the following multiple-choice promotional question the answer was given as "E". Several of us agree that "E" is correct to the extent that all statements are true; however, we do not agree that "E" shows a major difference as inferred by the question. What is your opinion?

"The major difference between a hand line and a master stream is: (a) Master stream is held by a device; (b) master streams require special equipment; (c) master streams have greater capacity; (d) master streams are used on large fires; (e) all of the above are correct."

J. M.

Answer: Doubtful questions of this nature sometimes find their way into examinations and due to poor phrasing tend to confuse. As a result, they receive the term "trick question" in the parlance of fire fighters. It is obvious that the examiner desired "e" as the answer, but none of the statements in any way compares the differences as the opening statement infers.

In approaching any examination question, try to read into it only the things desired by the examiner. While you may not agree that some questions are proper, answer on the spot and argue its merits after the exam is over. This will prevent wasting valuable moments in an examination with a fixed time limit. To do otherwise may be fatal in the final result.

Hose Tube Construction

To the Editor:

Recently quite a bit of discussion has occurred in our county concerning the merits of extruded-tube fire hose versus laminated-tube hose construction. Can you supply us with any information to guide us in this respect?

W. C.

Answer: In the past this question was the subject of much controversy among manufacturers and users of fire hose. The principal argument for the laminated tube was that with multiple layers there was less chance for pin holes or other minute defects to cause leakage. Exponents of the extruded or single-ply tube claimed less friction loss and smoother flow without the traditional lap or seam necessary in the multiple-ply construction.

With present-day manufacturing methods, it appears that neither argument is completely valid. Modern rubber compounding and adequate testing and inspection should eliminate the objections to the extruded-tube hose and modern production methods have reduced the seam size in laminated hose to the point where its effects on flow are negligible.

Apparatus Turning Radius

To the Editor:

What is the turning radius of modern fire apparatus?

S. G.

Answer: Most modern apparatus will turn in a radius of about 25 to 26 feet, depending on design. Some types may turn to the left on a radius of up to 28 feet, again depending on design.

The radius is measured from the center of the circle to the outer edge of the outside tire of the vehicle as it turns.

Placement of Apparatus

To The Editor:

What general principles must be considered in the placing of apparatus at fires?

J. H.

Answer: The placing of apparatus at fires is governed by the "size-up" made by the commanding officers, with due consideration to the department's rules and regulations.

Since "saving life is the first duty of fire departments at fires" (Fred Shepperd in "The Fire Chief's Handbook"), the most important consideration in the size-up is the life hazard. This would be determined by considering the occupancy and construction of the building, the time of day, and the location and extent of the fire.

After considering the life hazard (and acting accordingly), other factors that would determine the placing of apparatus are:

1. Department regulations may require a certain type hose stretch for residential occupancies and another type for mercantile, factory or public building occupancies. In addition, regulations sometimes require certain areas be kept clear for pumpers and other company apparatus.
2. For engine companies: the location of the nearest serviceable hydrant, and whether the hydrant to be used is encountered before the fire or the fire is reached prior to the hydrant.
3. If at all possible, apparatus should be placed so that it does not impede other apparatus which may respond. Apparatus not being used should be placed so it does not block access, but can be moved into action quickly if needed. And, if possible, apparatus should be placed so that it will not be damaged by falling walls, collapsing piers, etc.

Pumpers should be placed so that auxiliary appliances in the fire building, such as standpipes and sprinklers, may be used to full advantage. The importance of hooking up to sprinkler systems is stressed in the National Board of Fire Underwriters' Special Interest Bulletin #270.

While saving life is the primary duty, an engine company should not neglect to stretch a line if there is a ladder truck company present which can cope with the life hazard. Very often, getting a stream of water into action greatly reduces and sometimes entirely eliminates the life hazard. □□

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Coming events

Apr. 18-20—Industrial Mutual Aid & Disaster Control Seminar. Annual meeting, Shamrock Hilton Hotel, Houston, Tex. For information, write S. A. Anthony Jr., President, The National Institute for Disaster Mobilization, Inc., 475 Fifth Avenue, New York 17, N. Y.

Apr. 20-22—Illinois Fire Chiefs Association. Annual meeting, Hotel Lincoln-Douglas, Quincy, Ill. Secretary, Lester Manace, Assistant Chief, Peoria, Ill., Fire Department.

May 14-16—California Fire Chiefs Association. Annual meeting, Casa Munros Hotel, Monterey. Secretary-Treasurer, Chief George B. Carter, Fire Headquarters, Menlo Park, Calif.

May 15-19—National Fire Protection Association. Annual meeting, Statler-Hilton Hotel, Detroit, Mich. General Manager, Percy Bugbee, 60 Batterymarch Street, Boston 10, Mass.

May 21—Southern Wisconsin & Northern Illinois Firemen's Association. Annual meeting. For information, write Herman Pfund, New Glarus, Wis.

May 28-30—Southeastern Association of Fire Chiefs. Annual meeting, Orangeburg, S. C. Secretary-Treasurer, C. W. Wyrick, Chief of the Fire Department, Greensboro, N. C.

June 1-2—North Dakota Firemen's Association. Annual meeting, Wahpeton. Executive Secretary, J. K. Eckes, Killdeer, N. D.

June 1-3—Mississippi State Firemen's Association. Annual meeting, Jackson, Miss. For information write George Stinespring, Natchez.

June 4-7—New York State Association of Fire Chiefs. Annual meeting, Lido Hotel, Long Beach, L. I., N. Y. Secretary-Treasurer, Chief Ward A. Bohner, Van Buren Drive, Kinderhook, N. Y.

June 8-10—Montana State Fire Chiefs Association. Annual meeting, Rainbow Hotel, Great Falls. Secretary-Treasurer, William S. Hayes, P. O. Box 328, 208 Eklund Building, Great Falls.

June 13-15—State Firemen's and Fire Marshals' Association of Texas. Annual meeting, Stephen F. Austin Hotel, Austin. Secretary, David Clabaugh, P. O. Box 1, Carthage.

June 15-17—Eastern Association of Fire Chiefs. Annual meeting, Wilmington, Del. Secretary, Edwin J. Clark, Chief of the Fire Department, Box 328, Wayne, Pa.

June 19—New England Division, IAFC—Annual meeting, Wentworth-by-the-Sea, Portsmouth, N. H. Secretary-Treasurer, Walter R. Messer, Chief of the Fire Department, Keene, N. H.

June 19-22—New England Association of Fire Chiefs. Annual meeting, Wentworth-by-the-Sea, Portsmouth, N. H. Secretary-Treasurer, A. W. Kimball, Chief of the Fire Department, Hingham, Mass.

June 23-24—Southwest Virginia Firemen's Association. Annual meeting, Christiansburg. For information, write Chief C. F. Blount, Christiansburg Fire Department.

June 24—Central Western Firemen's Association. Annual meeting, Spencerville, Ohio. For further information, write Chief Kent Shoemaker, Oxford, Ohio.

July 13-15—Ohio Fire Chiefs Association. Annual meeting, Cincinnati, Ohio. For information, contact Chief Dan Vogel, Cincinnati Fire Department or W. H. Cheesman, Secretary, 309 Briarcliff Road, Dayton 15, Ohio.

July 29—Egyptian Firefighters Association of Southern Illinois. Annual meeting, Salem. For information, write Orval Mahon, Chairman, 201 South Broadway, Salem.

Aug. 20-23 — Canadian Association of Fire Chiefs. Annual meeting, Kitchener, Ont. Secretary-Treasurer, Allan H. Clark, Chief of the Fire Department, Lakefield, Ont.

Aug. 27-29—New York State Permanent Firemen's Association. Annual meeting, Schroon Lake, N. Y. Secretary-Treasurer, Robert E. Mills, 420 Plymouth Drive, Syracuse 6, N. Y.

Sept. 14—Delaware Fire Chiefs Association. Annual meeting, 8 p.m., Dover.

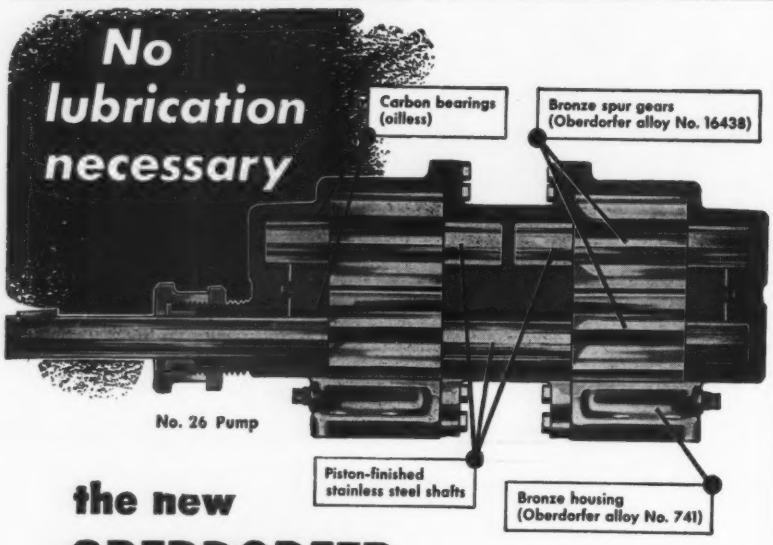
Sept. 15-16—Delaware Volunteer Firemen's Association. Annual meeting, Dover. For information write Jack T. Roe, Jr., Dover Fire Department.

September 24—Great Lakes Association of Fire Chiefs. Annual meeting in connection with IAFC Conference, Las Vegas, Nev. Secretary-Treasurer, Willard G. Compton, Chief of the Fire Department, Springfield, Ohio.

September 23—Pacific Coast Inter-Mountain Association of Fire Chiefs. Annual meeting in conjunction with IAFC Conference, Las Vegas, Nev. Secretary-Treasurer, Stephen Edmondson, Chief of the Fire Department, Pasadena, Cal.

September 25—Missouri Valley Association of Fire Chiefs—Annual meeting in conjunction with IAFC Conference, Las Vegas, Nev. Secretary-Treasurer, Chief Raymond G. Davis, Sedgwick County Fire Department, Wichita, Kans.

September 25-28—International Association of Fire Chiefs. Annual meeting, Las Vegas, Nev. Executive Director, B. Richter Townsend, 232 Madison Avenue, New York 16, N. Y.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Pump No.	Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
26	1600	120	500'—1½"	20'	150
13	1600	120	500'—1½"	20'	75

LIST PRICES — No. 26 — $249.50 No. 13 — $122.50

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OBITUARIES

Retired Chief T. H. Cotter

Thomas H. Cotter, 83, retired chief of the Providence, R. I., Fire Department, died recently in Detroit, Mich. Joining the Providence department in 1904, he was named chief in 1937 and retired due to illness in 1951. He was an active life member of the International Association of Fire Chiefs, the Rhode Island Fire Chiefs Club and the Providence Firemen's Permanent Relief Association.

Norris T. Morton

Retired Chief D. A. Davis

David A. Davis, 74, retired chief of the Evanston, Wyo., Volunteer Fire Department, died January 14 in Utah Valley Hospital, Provo, after a long illness. Chief Davis began a 50-year career as a volunteer fireman in 1905 when he was selected as one of two torch boys with No. 3 Hose Company. He was named chief in 1917 and served in this position for 38 years until his retirement in 1955.

He was originally a member of the Pacific Coast Inter-Moutain Fire Chiefs Association and in later years a member of the Missouri Valley Fire Chiefs Association and the International Association of Fire Chiefs.

One of the most respected citizens of his community, he had served over the years as a game warden, city councilman and as a director of the First National Bank of Evanston.

Edward Jones

Retired Chief R. R. Leedom

Robert R. Leedom, 69, retired chief of the Portsmouth, Ohio, Fire Department, died December 14 at the Mercy Hospital in Portsmouth. He began his career in the fire service when he was appointed to the Portsmouth department in 1914. He was promoted to assistant chief in

Positive Pocket-Sized Protection

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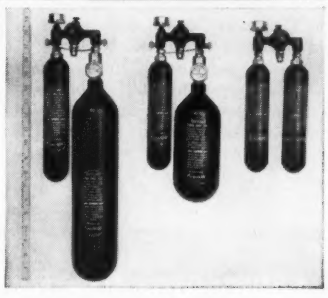

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1917 and named chief in 1919. He served 32 years as a fire fighter until his retirement in 1946.

Chief Leedom was a pioneer for better fire service conditions and led Ohio's efforts to achieve civil service recognition for paid firemen during 1918 and 1919. He also promoted better rural fire protection by organizing the Ohio Valley Firemen's Association and serving as its first president. A past president of the Ohio Fire Chiefs Association, he was also a member of the Great Lakes Division, International Association of Fire Chiefs during his active career as fire chief.

At various periods Chief Leedom was also acting city manager of Portsmouth and prior to his death, was completing his 12th year as a Scioto County commissioner.—*Chief Larry Donovan*

Louis A. Gerard

Louis A. Gerard, 79, treasurer of the Firemen's Association of the State of New York for the past 12 years died December 11 at his home in New Rochelle, N. Y. He began his career as a volunteer fireman in 1908 as a member of Hugenot Engine Company No. 1 and served as captain in 1916-17. He later served as president and secretary of the company and was treasurer in 1927 when the volunteer department was disbanded. He was past president and member of the board of directors, Westchester County Volunteer Firemen's Association.

Fire Marshal Bill Dawson

State Fire Marshal Bill Dawson of South Dakota died in Pierre, November 15 on his 70th birthday. He had been hospitalized for two weeks. He also was state insurance commissioner for the past year and held the post in 1933-37, under a previous Democratic administration.

E. W. Fair

District Chief J. H. White

J. Herbert White, 68, chief of District 9 of the Boston, Mass., Fire Department, died suddenly at his home on December 29. He was a Navy veteran of World War I, a member of Fireman's Post 94, American Legion; a past state commander of the American Legion and an organizer and first president of the Fire Chiefs Association of Boston.

Henry T. Hanson

Chief John MacConlogue

John MacConlogue, 60, chief of the Westminster, Mass., Fire Department, died suddenly at his home on December 25. He had been a member of the department for 35 years, the past 25 as chief. He was a veteran of both World Wars, a member of the American Legion and a member of the New England Association of Fire Chiefs and the Worcester West Forest Wardens Association.

Henry T. Hanson

Chief W. M. Price

Chief William M. Price, Idyllwild, Calif., Fire Protection District died recently at the Riverside, Calif., Hospital. He had headed the Idyllwild department for over 13 years. □□

Fire Prevention Grand Awards Announced

Martinsville, Va., and Hamilton, Ontario, have been named grand award winning cities for 1960 in the annual fire prevention contest sponsored by the National Fire Protection Association.

Additional grand award winners in other divisions include: Industry—Guide Lamp Div., General Motors Corp.; Anderson, Ind.; Government—Veterans Administration Center, Los Angeles, Calif.; U. S. Army—Fort Lewis, Wash.; U. S. Navy—Marine Corps Recruit Depot, Parris Island, S. C.; U. S. Air Force—Ramey Air Force Base, Puerto Rico; Department of National Defence, Canada — RCAF Station, Uplands, Ont.

Cities which placed first in their population classifications include: Milwaukee, Wis.; Fort Worth, Tex.; Providence, R. I.; Portland, Me.; Killeen, Tex.; Martinsville, Va.; Evendale, Ohio; Hamilton, Ont.; St. Catharines, Ont.; Cobourg, Ont.; Nelson, B. C.; Schumacher, Ont.; and Stony Plain, Alta.

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Fire colleges

Arizona State Fire Training School—Oct. 19-21, Phoenix College, Phoenix. Sponsored jointly by State Department of Vocational Education, Phoenix College, Phoenix Fire Department and the Arizona Firemen's Association. For information write Assistant Chief Jake Siken, Director, c/o Phoenix Fire Department, 49 South 1st Street, Phoenix 4. Ariz.

California Fire Training Program—Mar. 9-11, Oil Fire Control School, to be held in cooperation with Kern County Fire Department and Western Oil and Gas Association at Bakersfield; June 12-16—Arson and Fire Investigation Seminar, to be held in cooperation with California Conference of Arson Investigators and Extension Division, University of California, at Los Angeles; July 17-21, Fire Prevention Seminar, to be held in cooperation with the Fire Prevention Inspectors' Section, California Fire Chiefs' Association and Extension Division, University of California, at Berkeley. For information, write Thomas S. Ward, Supervisor of Fire Training, California State Department of Education, Bureau of Industrial Education, 721 Capitol Avenue, Sacramento 14, Calif.

Central Western Fire School—Apr. 8-9, West Alexandria, Ohio. For information, write Chief W. H. Cheesman, 309 Briarcliff Road, Dayton 15, Ohio.

Connecticut State Fire College—June 5-9, New Haven Fire Department training ground. For information write Roy W. Adams, Director, Vocational Training Field Service, Connecticut State Department of Education, 490 Capitol Avenue, Hartford 15, Conn.

Delaware Volunteer Firemen's Association Training School—Apr. 22-23, 29-30, Camden-Wyoming Fire Co., Camden. For information write Emanuel Harkins, Chairman, 1909 Newport Gap Pike, Cranston Heights, Wilmington.

Georgia Arson School—Apr. 3-7, Atlanta Fire Department Training Center, Atlanta. Program is conducted by the Georgia Fire Institute through the cooperation of the Atlanta Fire Department, the Georgia Institute of Technology, and the State Department of Education and sponsored by the Georgia State Firemen's Association, the Peace Officers' Association of Georgia and the State Fire Marshal. For information, write Raymond W. McGill, Chief of Training, Atlanta Fire Department Training Center, 25 Claire Drive Southwest, Atlanta 15.

Indiana Fire Service Training Program—Apr. 4-6, Industrial Fire Course; Apr. 24-28, Arson Investigators Seminar; May 15-19, Basic Fire School; June 6-8, Rescue Training Course; Sept. 13-16, Indiana State Fire School; Oct. 30-Nov. 3, Fire Inspectors Course. All courses to be held at Purdue University, Lafayette, Ind. For information write, Professor Shelby Gallien, Director, Public Safety Institute, Division of Adult Education, Purdue University, Lafayette, Ind.

Maryland Fire Training Program—Apr. 4-7, Fire Inspectors Short Course; Pump School Series —Waterous, May 6-7; Seagrave, May 20-21; American LaFrance, May 27-28; Hale, June 3-4; Barton-American, June 10-11; July 10-12, Hydraulics Short Course; Aug. 7-9, Aerial Ladder Short Course; Sept. 5-8, 28th Annual Short Course for Firemen. All courses will be held at the University of Maryland. For information, write Robert C. Byrus, Director, Fire Service Extension, College of Engineering, Glenn L. Martin Institute of Technology, University of Maryland, College Park.

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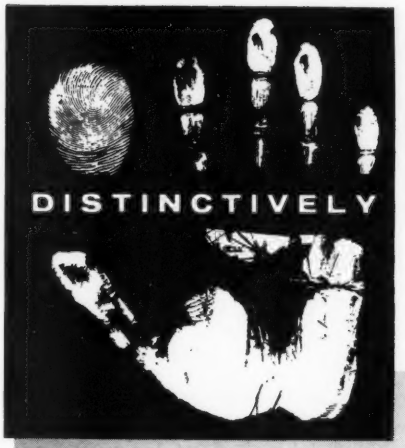

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Mississippi State Fire College—June 26-30, Jackson, Miss. For information write, Gibbs Parrish, Yazoo City.

Morris County Fire School—May 2, Green Village Fire Headquarters, Chatham Township; June 6, Rockaway Borough Fire Headquarters; July 11, Rainbow Lakes Fire Headquarters, Parsippiny-Troy Township; Aug. 1—Burham Park, Morris Township Fire Department; Sept. 5, Burham Park, Morris Township Fire Department. For information, write Robert H. Wright, Publicity Chairman, Long Hill Lane, Chatham, N. J.

New Jersey Fire College—Mar. 7, 14, 21, 28, Apr. 4, Southern Area, to be held at Ancora State Hospital; Mar. 16, 23, 30, Apr. 6 and 13, Central Area, to be held at Manasquan High School; Mar. 22, 29, Apr. 12, 19, 26, Northern Area, Dover High School. Subjects covered in three area schools include: Volunteer Fire Department Operations and Public Relations; Fire Prevention Inspection of Buildings; The Fireman and Electrical Equipment; Fire Causes—Detection and Investigation; and Fire Prevention, Fire Protection and Fire Fighting in Institutions. For information write Carl V. M. Cusumano, President, New Jersey State Fire College, 24 Branford Place, Newark 2.

North Dakota Fire Offices Conference—Mar. 27-29, Memorial Building, Jamestown, N. D. For information, write Chief Percy A. Wellman, Fire Headquarters, Jamestown, N. D.

North Dakota State Firemen's Training Program. Mar. 27-29—Officers Training School, Jamestown; May 15-17—Instructors School, Bismarck. For information write J. K. Eckes, Executive Secretary, North Dakota Firemen's Association, Killdeer, N. D.

Oklahoma State Fire School—Apr. 17-21, Oklahoma State University Campus at Stillwater. For information write R. J. Douglas, Head, Fire Protection Department, Technical Institute, Oklahoma State University, Stillwater.

Ontario Fire Training Program—Apr. 26-28, Fire Chiefs Conference, Hart House, University of Toronto; May 8-19, Administration Course for Senior Officers, Part I; May 29-June 2, Basic Fire Inspection Practices Course; June 5-16, Advanced Fire Inspection Practices Course, Part I; June 19-30, Advanced Fire Inspection Practices Course, Part II; July 10-21, Pump Course; July 24-Aug. 4, Company Officers' Course, Part I; Aug. 14-18, Fire Department Instructors' Course, Part I; Aug. 21-Sept. 1, Fire Department Instructors' Course, Part II; Sept. 11-15, Radiological Monitoring Course; Sept. 18-22, Volunteer Fire Officers' Course, Part I; Sept. 25-Oct. 6, Pump Course; Oct. 16-20, Basic Fire Inspection Practices Course; Oct. 23-27, Mutual Fire Aid Forum. All of the above courses will be held at the Ontario Fire College, Gravenhurst, Ont. Regional fire schools will be held June 26-30 in Cornwall for Counties of Stormont, Dundas & Glengarry; Oct. 16-20 in Essex for the County of Essex; and Oct. 23-27 in Chatham for the County of Kent. For information, write M. S. Hurst, Ontario Fire Marshal, 204 Richmond Street West, Toronto 1.

South Carolina Fire Fighter Training Service—Regional schools to be held as follows: Jan. 30-Feb. 3—Wade Hampton; Feb. 6-12 and Feb. 13-17 at Florence; Mar. 6-10, Abbeville; Mar. 13-17, Glendale; Mar. 20-24, Aiken; Mar. 27-31, Greenwood; Apr. 3-7, T & I, Clemson; Apr. 10-14, Hanahan; Apr. 17-21, Lexington; Apr. 24-28, Beaufort; May 1-5, Parker District; May 8-12, Lancaster; May 15-19, Greer; May 22-26, Conway; June 5-9, North Charleston; June 12-16, Union; June 26-30, Loris; July 10-14, Pickens; Sept. 4-8, West Columbia; Sept. 11-15, Cayce. For information, write H. B. Wells, Instructor, Route 1, Box 119, Prosperity, S. C.

Southern Wisconsin & Northern Illinois Fire School—September 10, Green County Fair Grounds, Monroe, Wis. For information, write Herman Pfund, New Glarus, Wis.

Williamsburg Pump Operators' School—Apr. 22-23, Williamsburg, Va. For information, write Fire Marshal Elliot Jayne, Williamsburg Fire Department. □□

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Los Angeles Issues Pocket Guide for Officers

The Los Angeles Fire Department recently issued a pocket-size "Fire Officer's Guide," which is subtitled "A Pocket Memo of Emergency Procedures and Useful Data for Fire Department Officers and Acting Officers."

In the foreword, Chief William L. Miller indicates the purpose of the book when he states that "The present-day fire officer is required to respond to a great many different kinds of emergencies upon a moment's notice. Even with many years of experience and study, it may be a little difficult to instantly recall the great many details and procedures found in the numerous training manuals, together with other pertinent data for his own particular area and command. Even if we assume that the old experienced officer has all this data 'in his head' it would still be helpful to the new and inexperienced officer to have such information 'in his pocket' until such time as he no longer needs a guide of this kind."

The guide, which covers more than 100 subjects, runs the gamut from "Jato Units" to "Snake in House." It was compiled by Deputy Chief Charles W. Bahme, and is copyrighted by the Los Angeles Fire Department.

Purdue Schedules Industrial Conference

The Eighth Annual Industrial Fire Control Conference will be held at Purdue University, Lafayette, Ind., on April 4-6, 1961. Planned to assist in the development of a more effective fire safety program for industry, it will feature outstanding industrial fire control authorities, lecturers and moderators and will provide the basic techniques and methods of industrial fire fighting and fire prevention for both the small and large industrial plants.

This training course in industrial fire control is intended to help administrative and supervisory personnel to deal more efficiently with their fire control problems and to reduce industrial fire loss through training. The program itself is planned to lend assistance to the experienced safety supervisor and also to provide training for new personnel. For additional information, contact Professor Shelby Gallien, seminar director, Public Safety Institute, Purdue University, West Lafayette, Ind.

Ontario Fire Marshal In New Quarters

Fire Marshal Martin S. Hurst has announced that the Ontario Fire Marshal Office has moved to new quarters in the Ontario Government Building at the corner of Richmond and Simcoe Streets. The new address is 204 Richmond Street West, Toronto 1, Ont.

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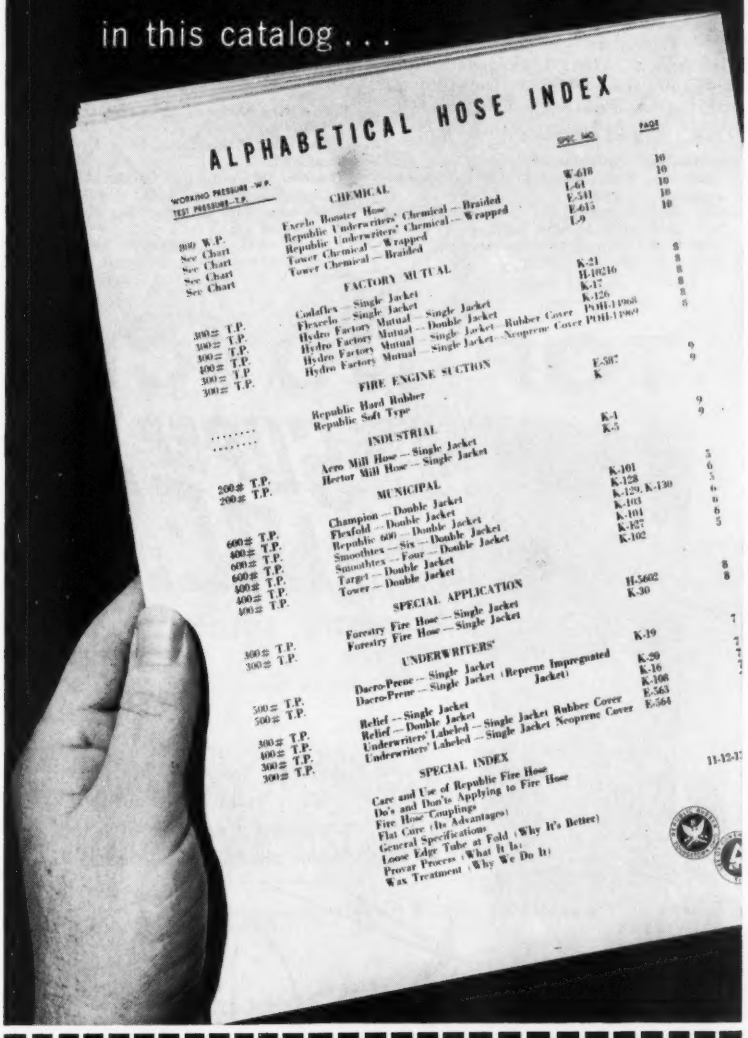

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What's burning

THE FOLLOWING LIST includes fires of $10,000 and over in the United States and Canada for the period from December 30th to January 30th.

Anniston, Ala.—Anniston Municipal Golf Course clubhouse destroyed. Fire left in fireplace overnight.

Arab, Ala.—Adjoining dry goods store, drug store and furniture store buildings in downtown area destroyed; hardware appliance store damaged.

Locust Fork, Ala.—Locust Fork High School destroyed.

New Hope, Ala.—Three buildings housing the City Hall, office of Dr. B. J. Holaway, chiropractor, grocery, beauty shop and funeral parlor, damaged.

Fayetteville, Ark.—Central Tire Co. damaged. Short circuit.

Harrisburg, Ark.—Harrisburg Tire Service warehouse destroyed; Moulder Liquor Store damaged. Burning pile of tractor tires behind warehouse.

Little Rock, Ark.—Bargain Center heavily damaged.

Little Rock, Ark.—Grain elevator damaged extensively.

Little Rock, Ark.—Pruitt Hide & Fur Co. destroyed.

Osceola, Ark.—Chessie's Garage and Aston Auto Parts Store destroyed. Oil stove explosion.

Texarkana, Ark.—Dickey Clay Co. pipe plant damaged.

Oakland, Calif.—Upholstery shop, paint store and auto repair shop, damaged.

Porterville, Calif.—Golden Gate Eagle Olive Oil Co. plant damaged.

Sacramento, Calif.—*North Sacramento Journal* newspaper plant destroyed.

San Francisco, Calif.—Buildings Trades Temple in Mission District damaged.

San Francisco, Calif.—Mother's Supermarket, Pacific Variety Store and dwelling of Mrs. Molly Ellenberger, destroyed.

San Francisco, Calif.—Spray Craft Auto Painting Co. destroyed. Explosion.

San Francisco, Calif.—San Francisco Housing Authority damaged.

San Francisco, Calif.—Ford Hotel destroyed. Careless smoking.

San Francisco, Calif.—Vespa Motor Scooter Co. extensively damaged. Arson.

Ventura, Calif.—Pacific Light & Gas Co. compression plant damaged.

Branford, Conn.—Business block housing six stores destroyed.

Bridgeport, Conn.—Building housing health club, restaurant, liquor store and automatic laundry, damaged.

Broad Brook, Conn.—Ninety-year-old Town Hall damaged.

East Windsor, Conn.—East Windsor Town Hall destroyed.

Greenwich, Conn.—Dwelling of Lawrence Puchta destroyed.

Milford, Conn.—Fireside Restaurant damaged.

Norwich, Conn.—Greenville Elementary School damaged.

Wallingford, Conn.—U. S. Plastics Co. plant damaged.

Jacksonville, Fla.—American Cypress Co. plant and nearby lumber firm destroyed.

Okeechobee, Fla.—Building housing *The Okeechobee News* and The Indiantown Press destroyed.

Adairsville, Ga.—U. S. 41 Motel damaged.

Albany, Ga.—Peacock Building housing offices damaged.

Atlanta, Ga.—Three buildings housing West Point Products Co. destroyed; another building damaged. Arson suspected.

Atlanta, Ga.—Barn at Fainview Farms of C. L. Fain, Jr., housing 24 show horses destroyed.

Atlanta, Ga.—Building housing Brown Typewriter Co., King Sales Co., Monroe Realty Co. and Southern Belle Restaurant, heavily damaged.

Atlanta, Ga.—Meadows Mfg. Co. warehouse heavily damaged.

Atlanta, Ga.—Georgian Furniture Mfg. Co. heavily damaged.

Cochran, Ga.—Cochran Elementary School damaged.

Columbus, Ga.—Four stores in Cross Country Plaza Shopping Center damaged.

Moscow, Idaho—Building housing apartments and nearby businesses damaged.

Atlanta, Ill.—Hoblit Seed Co. processing plant destroyed.

Freeport, Ill.—Garage, barber shop and cigar store in business district destroyed.

Galesburg, Ill.—Furniture store of Robert Hart destroyed; hotel and church damaged.

Litchfield, Ill.—Fashion Lane Department Store destroyed; First National Bank and nearby stores damaged.

Paris, Ill.—Witmer Furniture Store destroyed; Safford Monument Shop, Paris Community Youth Center and Elks Club, damaged.

Peoria, Ill.—Building housing Loop Tavern, Peerless Tap, Jumbo Lunch, vacant Peoria Hotel, and DeKroyft-Metz Co. drug firm, damaged.

St. Joseph, Ill.—Two downtown buildings housing seven firms and offices, damaged.

Springfield, Ill.—Schafer Supply Co. warehouse destroyed; Stehman Wrecking Co. damaged.

Watseka, Ill.—J. C. Penney Co., Sears, Roebuck & Co. stores, billiard hall and apartments, damaged.

Richmond, Ind.—Hackman-Eickemeyer Inc. furniture store damaged. Overheated refrigerator motor.

Hodgenville, Ky.—Farmers Supply Co. of D. C. Cruse and Harry Bowling damaged.

LaGrange, Ky.—LaGrange Elementary School gymnasium damaged. Overheated furnace.

Lawrenceburg, Ky.—Fairgrounds grandstand of Anderson Post No. 34, American Legion, destroyed.

Lexington, Ky.—Neville Hall, 70-year-old building at University of Kentucky destroyed.

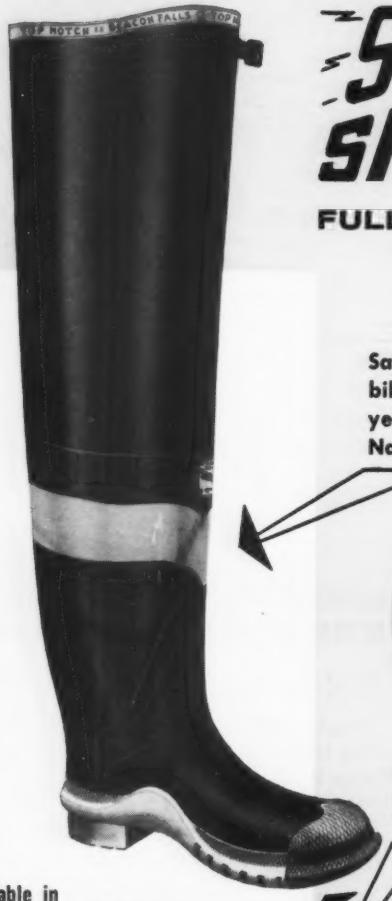
Louisville, Ky.—S & S Produce Co., Silver Fleet Motor Express Co., trucker's restaurant of Philip Karem and John Passafiume's produce firm, damaged.

Middlesboro, Ky.—Barber shop, restaurant and

TOP NOTCH

SUPER SIREN

FULL PROTECTION FOR FIREMEN



Safety Stripe of high visibility yellow, the authentic yellow approved by the National Safety Council.

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Plus more than 20 outstanding features that have earned Siren Boots nationwide recognition.

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BEACON FALLS RUBBER FOOTWEAR • BEACON FALLS, CONNECTICUT

insurance office destroyed; adjoining paint store and Western Union office damaged.

Richmond, Ky.—Campus dwelling on Eastern Kentucky State College grounds destroyed. Gas ignited.

Arabi, La.—New Orleans Stock Yards Inc. damaged.

Belfast, Me.—Frost & Wilkins Inc. oil distributing firm damaged.

South Portland, Me.—Cities Service Tank Farm on waterfront considerably damaged. Explosion.

Annapolis, Md.—Building at 50 Clay Street destroyed; adjoining dwelling damaged.

Baltimore, Md.—Charing Cross Shopping Center, housing Sun Ray Drug Store, barber shop, beauty salon, insurance, real estate, dentist's and lawyer's offices, damaged.

Baltimore, Md.—Eutaw St. Building, housing shoe store and delicatessen, damaged.

Baltimore, Md.—James R. Guarino Basket Co., Inc. destroyed.

Baltimore, Md.—Pennsylvania Railroad car repair shop destroyed.

Baltimore, Md.—Spring Grove Mental Hospital Convalescent Cottage No. 1 heavily damaged.

Baltimore, Md.—Steward & Co. department store warehouse-service building heavily damaged.

Bridgewater, Mass.—Bridgewater Foundry Co. Inc. damaged.

Brookline, Mass.—Commonwealth Avenue Building housing Radio Station WBOS and two record distribution firms, damaged.

Cheshire, Mass.—Pine Brook Club destroyed.

Leominster, Mass.—Commonwealth Plastic Corp. damaged.

Lowell, Mass.—Naval Reserve Training Center damaged.

Northfield, Mass.—Barn and cattle owned by Podleski Brothers destroyed.

Boon, Mich.—Tom Smith's general store destroyed.

Cadillac, Mich.—WWTV studios of Felzer Broadcasting Co. destroyed.

Clare, Mich.—Seiter Bros. Lumber Co., Packing House Market and two dwellings, destroyed; nearby restaurant damaged.

Dearborn, Mich.—Dwelling of Mrs. Alexander Lukaszewicz destroyed.

Hart, Mich.—Hegg Department Store, Jonneson Building, housing dress and optical shops and Powers Building, destroyed; *Hart Journal* Building and Oceana County Savings Bank damaged.

Jackson, Mich.—Dwelling of F. A. Kennedy damaged.

Keego Harbor, Mich.—Lawyer's Collision Service repair shop destroyed. Gasoline fumes exploded by cutting torch.

Mottville, Mich.—Milco Boat Works destroyed.

Saute Ste. Marie, Mich.—Block housing Moose Lodge Hall, bar, paint store and apartments, destroyed.

Montevideo, Minn.—J. C. Penney Co. and three other businesses damaged.

St. Paul, Minn.—Frederick Hotel destroyed.

Winona, Minn.—Central Methodist Church, 90-year-old landmark, destroyed.

Starkville, Miss.—Liberty Hill Negro School destroyed.

St. Joseph, Mo.—Business buildings housing music store, druggist, law office, bowling alleys, insurance agency and shoe repair shop, damaged. Explosion.

St. Louis, Mo.—Associated Grocers warehouse damaged.

St. Louis, Mo.—Hotel Statler-Hilton considerably damaged.

Springfield, Mo.—Customhead Trailer Mfg. Co. plant damaged.

Farmington, N. H.—Two-story hen house and 25,000 hens at Wichtane Farms, destroyed.

Laconia, N. H.—Win-Door Co. of New England Inc. destroyed.

Atlantic City, N. J.—A. S. Beck Shoe Store, Mayflower Dress Shop and Bonton Dress Shop, extensively damaged.

Atlantic City, N. J.—Nasherei Restaurant destroyed; adjoining children's wear shop damaged.

Bayonne, N. J.—Sun Gas Products Co., oil distributing center, and surrounding dwellings damaged. Explosions.

Bloomfield, N. J.—Brookdale Beverage Co. warehouse damaged.

Camden, N. J.—Acherle's Bakery and apartments heavily damaged.

Colts Neck, N. J.—Dwelling of Arthur Ruffalo destroyed. Defective wiring.

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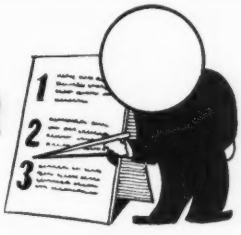
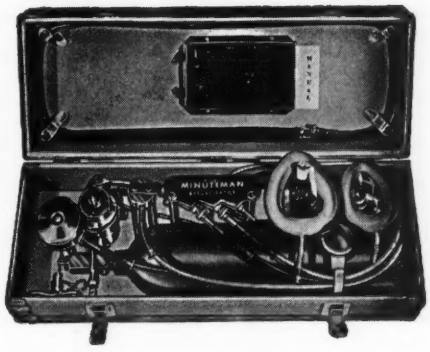
The STEPHENSON MINUTEMAN RESUSCITATOR
saves life three ways



This ingeniously compact instrument, weighing under 30 lbs. with tank, combines the functions of three units in one. As a Resuscitator it actually breathes for the patient who is unable to do so. As an Inhalator it is used where the patient can breathe but requires more oxygen. As an Aspirator it clears the air passages of mucus, froth, blood or other obstruction. With an extra Midget attachment, it will resuscitate two patients and aspirate a third simultaneously. Pressures adjustable from Adult to Infant with manual override when needed and with mixtures from 100% oxygen to 50% oxygen—50% nitrogen from the air.



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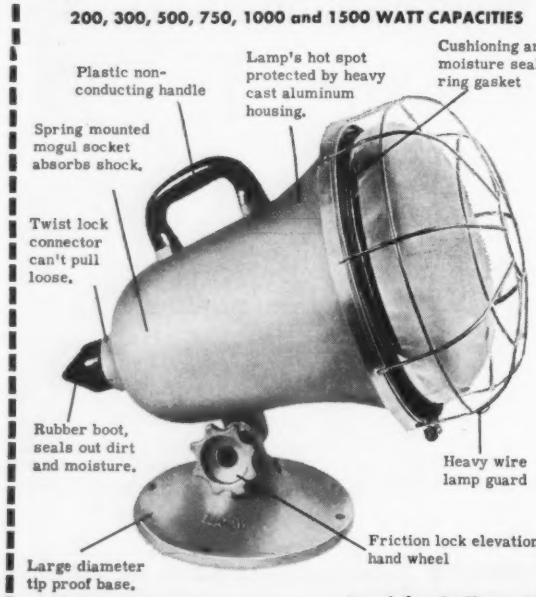
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Lamp's hot spot protected by heavy cast aluminum housing.
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Twist lock connector can't pull loose.
Rubber boot, seals out dirt and moisture.
Heavy wire lamp guard
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Large diameter tip proof base.

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CIRCLE-D-LIGHTS

NATALE MACHINE & TOOL CO. CARLSTADT, N. J.

Deal, N. J.—Large dwelling destroyed.

Delanco, N. J.—Walnut Street Elementary School damaged. Defective electrical connection.

Hopatcong, N. J.—Fairway Bowling Alley destroyed.

Jersey City, N. J.—Daquila Co. potato warehouse damaged.

Jersey City, N. J.—Ferris Television & Electrical Appliance Shop, Lea Nore Dress Shop and Bern Curtain Store, destroyed.

Jersey City, N. J.—Foodtown Market and TV Shop damaged.

Kearny, N. J.—Kearny Naval Reserve Center damaged.

Leonia, N. J.—Madonna Cemetery Corp. office-warehouse building extensively damaged.

Long Branch, N. J.—Apartment dwelling damaged.

Lyndhurst, N. J.—Clintbrook Chemical Co. destroyed.

Newark, N. J.—Midtown Camera Shop, Allstate Insurance Co. office and luncheonette, heavily damaged.

Newark, N. J.—Warehouse of Newark Specialty Co. and Metropolitan Baptist Church damaged.

New Market, N. J.—Freed's Poultry Farm extensively damaged.

Passaic, N. J.—Hollywood Rooming House & Tavern damaged.

Paterson, N. J.—Buildings housing Jacobs Drug Store, Bernice's Beauty Shop, Angelo's Barber Shop, Garden Kosher Caterers, Goldberg's Meat & Poultry Shop and Purity Bakery, damaged.

Paterson, N. J.—Diamond Hardware Store, Louis and Fred's Luncheonette, and Diamond Field Club, damaged.

Princeton, N. J.—Dental office suite of Dr. D. A. Pickering in First National Bank Building destroyed.

Roselle Park, N. J.—Excello Mills Inc. destroyed.

Stratford, N. J.—Reconverted gymnasium at Stratford Military Academy destroyed.

Teaneck, N. J.—Dental research laboratory at Fairleigh Dickinson University destroyed.

Trenton, N. J.—Industrial Arts Building at Trenton State Teacher's College damaged.

Trenton, N. J.—S. Litowitz & Sons fruit and produce market damaged.

Wayside, N. J.—Dairy barn and silo at Middlebrook Farm destroyed; second barn damaged.

Wrightstown, N. J.—Steakhouse-Luncheonette, Bennett's Confectionery, Hester's Shoe Repair Shop, Army-Navy military supply store and vacant shop, destroyed or damaged.

Brooklyn, N. Y.—Carb Manufacturing Co. damaged considerably.

Brooklyn, N. Y.—Eagle Container Co., manufacturers of corrugated containers, damaged considerably.

Clinton, N. Y.—Park Hotel destroyed. Defective heating plant.

Cohoes, N. Y.—Old North Mill, nine-story building housing Arnold Knitwear Corp., destroyed.

Elmira, N. Y.—Haskell Construction Co. storage warehouse destroyed. Welder's torch.

Fishkill Plains, N. Y.—Three barns, silo and vehicles on Everett Crosby estate destroyed; another barn damaged.

Jamestown, N. Y.—Main building of Chautauqua Institute destroyed.

Liberty, N. Y.—Sullivan County Building Material Co. damaged.

McClure, N. Y.—Savis Bros. Co. storage building destroyed. Overheated and defective butane gas space heater.

Niagara Falls, N. Y.—Thomas Cox Co., Inc. storage building, housing 500 tons of coal, destroyed.

Rensselaer, N. Y.—Episcopal Church of the Epiphany damaged. Arson.

Sayville, L. I., N. Y.—Sayville Bowling Alleys destroyed.

Sussex, N. Y.—C. W. Brownell Co. plant at McCoy's Corners damaged.

West Babylon, L. I., N. Y.—Three stores destroyed and three stores damaged in Great South Bay Shopping Center.

Dunn, N. C.—Johnson Cotton Co. destroyed.

Gastonia, N. C.—Stovall Foundry Plant considerably damaged.

Granite Falls, N. C.—German's "Trading Center" destroyed.

Newland, N. C.—Theatre, two cafes, 5 and 10¢ store, Army and Navy surplus store, pool room, hardware store, beauty parlor, radio and TV repair shop and Smithey's Department Store, destroyed.

Salisbury, N. C.—Rowan Printing Co. warehouse damaged.

Thomasville, N. C.—Johnstown Supermarket extensively damaged. Overheated motor.
Athens, Ohio—Building housing Sundry Variety Store, barber shop, pizzeria and rooming house, damaged.
Canton, Ohio—Sylvester's Restaurant and Cocktail Lounge damaged. Explosion.
Celina, Ohio—Supermarket of Roy Geren damaged.
Columbus, Ohio—Del Rio Restaurant damaged. Gas explosion.
Columbus, Ohio—Dublin Road plant of Columbus Municipal Light Plant damaged. Short circuit.
Miamisburg, Ohio—W. T. Grant variety store in Miamisburg Plaza Shopping Center damaged.
New Philadelphia, Ohio—Building housing Tuscora Park Roller Rink, dance hall, penny arcade, amusement equipment and locker rooms, destroyed.
Sebring, Ohio—Building housing Stanford Art Pottery Co., East Ohio Machinery Co. and Sebring Container Co., destroyed.
Toledo, Ohio—Lagrange Builders Supply warehouse damaged.
Vernon Heights, Ohio—Dwelling of Francis B. Huber damaged.
Enid, Okla.—Six buildings housing stores and apartments damaged.
Coos Bay, Ore.—Ocean View Lumber Co. destroyed.
Jasper, Ore.—Jasper Lumber Co. destroyed.
Newberg, Ore.—Hammer's Drug Store and Keizer's Shoe Store damaged.
Portland, Ore.—Grace Memorial Episcopal Church damaged. Overheated coffee pot.
Portland, Ore.—Leslie F. Clarke's Publishing plant damaged.
Bensalem, Pa.—Recreational building at Camp Cherokee destroyed.
Bethlehem, Pa.—Acme Supermarket and Goodyear Tire Co. retail store destroyed.
Center Point, Pa.—Worcester Elementary School damaged.
Clifton Mills, Pa.—Barn and equipment on William Hitch property destroyed.
Covington, Pa.—Covington Central School cafeteria building destroyed. Defective heating boiler.
Eddington, Pa.—Towne Carpet & Furniture Co. store heavily damaged.
Newfoundland, Pa.—Hotel Newfoundlandhouse destroyed.
Old Forge, Pa.—Akaulonis Building on Milwaukee Avenue destroyed.
Philadelphia, Pa.—Building housing Philadelphia China Co. and Acorn Canvas Co. heavily damaged.
Philadelphia, Pa.—Standard-Union Fibre Co. damaged.
Wayne, Pa.—Price Hall at Valley Forge Military Academy heavily damaged.
North Smithfield, R. I.—Business block housing Mezza Luna Pizzeria destroyed; hardware store of Robert Redelsperger and Park Square Pharmacy damaged.
Providence, R. I.—Building occupied by Kirby of Rhode Island, a vacuum cleaner sales firm, and Lutana, Inc., jewelry manufacturers, heavily damaged.
Providence, R. I.—Building housing Mile and a Quarter House, furniture firm and Robel Studio, considerably damaged.
Providence, R. I.—Recreation center at 65 Benefit Street considerably damaged.
Aiken, S. C.—Woodruff Drug Co. in Mitchell Shopping Center destroyed.
Clemson, S. C.—Building 33 at Clemson College Poultry Plant destroyed.
Oak Hill, S. C.—Lochgelly Elementary School destroyed.
Union, S. C.—Excel Hosiery Mill damaged. Defective wiring.
Bogota, Tenn.—County Elementary School damaged. Defective boiler exploded.
Cleveland, Tenn.—Goodwill Baptist Church destroyed.
Covington, Tenn.—First Baptist Church damaged. Defective wiring and heating.
Dyersburg, Tenn.—Loyal Order of Moose Lodge building destroyed.
Dyersburg, Tenn.—Main plant of National Can Refining Co. destroyed.
Etowah, Tenn.—Vibro Corp. plant destroyed.
Gallatin, Tenn.—First Baptist Church destroyed.
Knoxville, Tenn.—Gillespie Avenue B Baptist Church damaged.
Memphis, Tenn.—Temporary classroom building of Greeter Negro School destroyed.
Sevierville, Tenn.—Building and 60 animals at Fort Weare Game Park destroyed.

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LEATHER, ALUMINUM AND PLASTIC

REGULATION AND DROP BRIM MODELS

No. 5A — "NEW YORKER"
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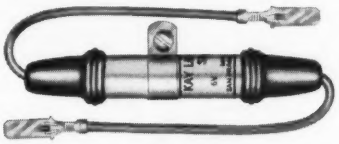

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Please send me your P-F RESCUE KIT Bulletin — with complete story on Models RK-4 and RK-1.

NAME.....
TITLE.....
ADDRESS.....
CITY.....STATE.....

Dallas, Tex.—*The Dallas Times-Herald* damaged.
Houston, Tex.—Aquaness Department of Atlas Powder Co. destroyed. Explosions.
Longview, Tex.—Cabell Milk plant damaged.
Port Arthur, Tex.—Park Place Hospital damaged.
Venus, Tex.—First Baptist Church damaged.
Craftsbury, Vt.—Newly-completed main building at Craftsbury School for Boys destroyed.
Springfield, Vt.—Adna Brown Hotel destroyed; adjoining VFW and Ellis Theater damaged.
Abingdon, Va.—Light Mill milling firm damaged. Overheated motor.
Galax, Va.—Goodson's Restaurant destroyed; adjoining Harrison's Department Store damaged.
Richmond, Va.—Milner Hotel extensively damaged. Cigarette burned mattress.
Richmond, Va.—Southern Steel & Stove Co. heavily damaged.
Kennewick, Wash.—Abin Lumber Co. destroyed.
Longview, Wash.—L. R. Smith Hardwood Co. mill damaged. Faulty wiring.
Ritzville, Wash. — Safeway Supermarket destroyed.
Wenatchee, Wash. — John's E-Z Supermarket destroyed.
Iaeger, W. Va.—Adjoining Roberts Flour & Feed Store and Trailways Bus Terminal destroyed.
Pocahontas, W. Va.—Modern Dry Cleaners plant and G. F. Mustard Quality Store destroyed; First Methodist Church damaged.
St. Marys, W. Va.—Quaker State Oil Co. refinery along Ohio River, damaged. Explosion.
Kenosha, Wis.—American Motors Corp. plant damaged.
Woodstock, N. B.—Adjoining buildings, housing two barber shops, Cougle's Restaurant, four offices and apartment, destroyed.
Niagara-On-The-Lake, Ont. — Canadian Wood Products Ltd. warehouse destroyed.
Toronto, Ont.—Carson Hotel damaged.
Virgil, Ont.—Midtown Service Center destroyed.
Dorion, Que.—Dorion Door Inc. plant, Asselin Lumber Yard, dwelling of Asselin and Charlemagne Lauzon and taxi stand hut, destroyed.
Montreal, Que.—Luxury apartment dwelling on west end destroyed. □□

Unusual Equipment for a Crash Fire Truck

This mast on the crash truck used by Trans World Airlines at its maintenance base at Kansas City contains a weather vane, a wind speed indicator and a radio aerial. The attachments provide information for the truck's crew, which doubles for weather observation. The firemen

—Trans World Airlines photo

relay ground weather conditions to big airliners landing and taking off at the base, communicating truck to plane by radio. R. M. Weaver (center), supervisor of plant protection, explains the mast's function to two of the base fire inspectors. All fire fighters are trained by the United States Government in weather observation.

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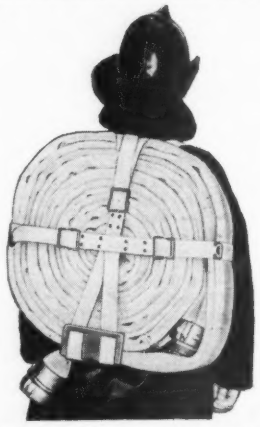
CARRY YOUR HOSE WITH NEW, LIGHT WEIGHT, COMFORTABLE ATLAS DOUGHNUT ROLL CARRIER.



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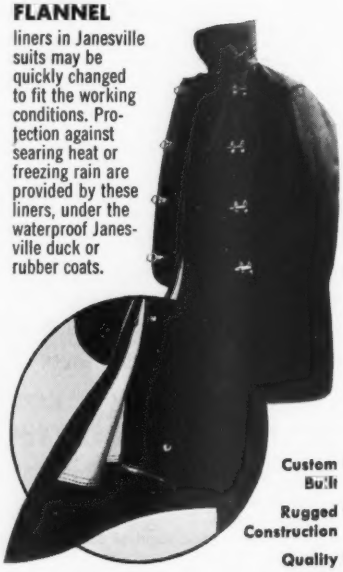

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JANESVILLE, WISCONSIN

Names in the news

Shukraft Heads San Diego

Ray W. Shukraft, 42, was named San Diego's fire chief to succeed retiring Chief George Courser on Christmas Eve last. He was selected for the $16,116 post from among 15 top city fire chiefs who took the examination for the position. Chief Shukraft was at the time on leave from the San Diego Fire Department to fill the position of state fire marshal, following his appointment by Governor Brown on January 1, 1960. He resigned the state position in December.

The new chief joined the San Diego Fire Department as a probationary fireman in 1937 and worked his way up through the ranks. He was appointed engineer in 1943, named lieutenant in 1947, captain in 1951 and battalion chief in 1955.

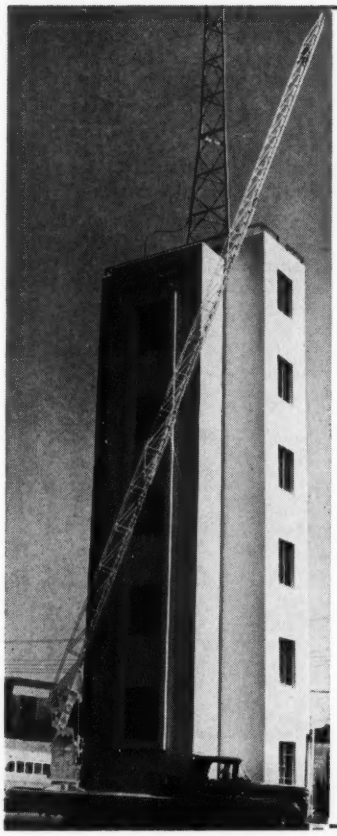
Born in Los Angeles, he attended the University of California at Los Angeles, studying architecture, and moved to San Diego in 1933. He served as president of the San Diego Fire Fighter's Association from 1950 to 1954, and president of the Federated Fire Fighters of California from 1952 to 1956.

Roi B. Woolley

Chief J. L. Grote Honored

Chief James L. Grote, president, New England Division, International Association of Fire Chiefs and fire chief and postmaster of Chester, Conn., was recently named "Man of the Year" in the lower Connecticut Valley. He was singled out for his many contributions to the community and the state during his 49 years of continuous service as a volunteer fire fighter, the last 37 as chief of department.

Chief Grote is a past president of the Middlesex County Fire Chiefs Association, the Connecticut State Firemen's Association and the Connecticut State Fire



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Chiefs Association. He is the oldest active fire marshal in the state and in addition, is president of the Chester Agricultural and Mechanical Society, the organization which sponsors the Chester Fair.

Swindle Succeeds Knox As Chief of Birmingham

Deputy Chief John L. Swindle was promoted to fire chief of Birmingham, Ala., effective January 1, to succeed Chief R. B. Knox whose retirement after 47 years of service took effect the same day.

Chief Swindle joined the department January 1, 1938. He was promoted to lieutenant May 10, 1948, and four years later to captain. He served as deputy chief to Chief Knox since April 5, 1958.

Leddy Heads Hamden

V. Paul Leddy was named chief of the Town of Hamden, Conn., Fire Department on November 19, 1960. Chief Leddy joined the Hamden Fire Department in 1941. He was promoted to lieutenant in 1949, to captain in 1951 and named battalion chief in 1954.

During World War II he served with

the Coast Artillery and was in charge of fire protection and fire training at East Point, Nahant, Mass., Boston Harbor Defenses. In 1956, he was named Hamden Civil Defense director, and became a member, Fire Services Committee, Region 1, Civil Defense Council.

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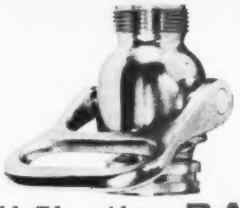

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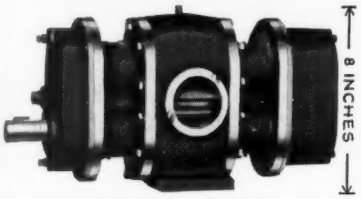

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Chief F. J. Johnson Retires; Morse Heads Boulder

Chief Frank J. Johnson, Boulder, Colo., Fire Department retired November 30 after nearly 51 years of service. He joined the department on March 21, 1910, and was promoted to captain in 1917. He was named assistant chief in 1953 and became chief in 1957.

George L. Morse was named chief on December 1. He has been assistant chief since April 9, 1957, and has been a member of the department since January 1, 1934.

E. W. Fair

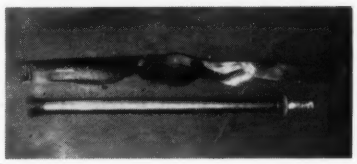
Chief R. B. Knox To Retire

Chief Robert B. Knox, 71, Birmingham, Ala., Fire Department, will retire in March. Chief Knox joined the department April 15, 1913 and rose through the ranks, being named chief on November 4, 1957. He instituted many improvements such as a pension program, two-platoon system, and a civil service law for fire and police departments. He helped organize and is still serving on the Fireman's Credit Union board of control.

Robert Sams

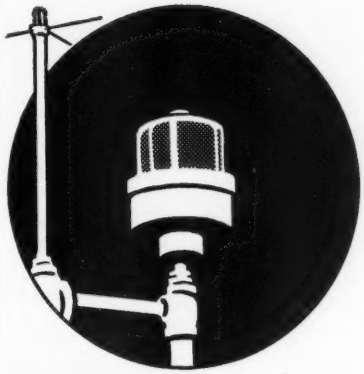
Explosion in Auto Drive Shaft during Fire

The ruptured drive shaft shown below with an intact shaft for comparison was involved in a scrap pile fire in Saginaw, Mich. on May 3 last. Apparently the



pressure rise of the trapped air inside the hollow tube was so great that the shaft exploded with a bomb-like report and was propelled some 75 to 100 feet like a projectile. Fortunately no one was injured in the unusual mishap.

Chief A. Schultz, Sr.



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THE ROUND TABLE . . . *continued from page 218*

draw up such an ordinance and will ask that the city council make it into a law. The state fire regulations do not stipulate this requirement.

We do permit smoking in the teachers lounge rooms, if rooms meet specific requirements as to location and construction.

There is a regular program for instructing teachers and school custodians in the fundamentals of fire prevention.

A custodial school is held for two days each year, at which all school custodial staffs are instructed in fire prevention measures, the use of fire extinguishers and what to do in case of fire.

In our some 150 schools we have enrolled over 5,000 junior fire patrol boys and girls. The number in each school ranges from 10 to 50, depending on the size, number of floors, number of pupils, etc. The patrol members assist the principal and sponsoring teachers in fire drills, school inspections for fire prevention, etc. A fire and safety meeting is held by each patrol monthly during the school year under the guidance of the sponsoring teacher. Seasonal topics such as the special hazards of holidays, are emphasized at the proper times and material is provided by this department.

A city-wide poster contest is held in the schools each year. The winners of the contests are guests at a luncheon given by one of our large department stores. The parents of the winners, as well as their school principals and sponsoring teachers are also guests at this luncheon. The mayor, public safety director, fire chief, fire marshal and chief of fire patrols also attend this luncheon. Prizes are awarded to winners of the contests and special recognition given for any outstanding performance or deed by any of the school children in connection with fire prevention or safety.

Tests of the fire patrol members' knowledge and alertness are made frequently by intentional blocking of stairways, fire doors fastened open, trash improperly contained, etc.

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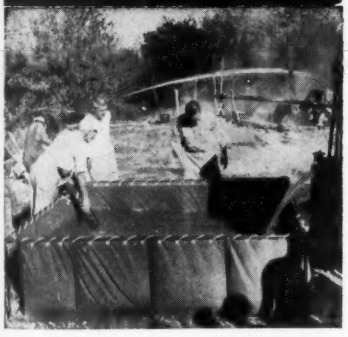

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This action photo from the Lake Geneva Regional News, Wisconsin, shows the Fol-Da-Tank at work. Water from the tanker is being dumped into the Fol-Da-Tank so that it can return to the nearest water supply for another load thereby assuring a constant supply of water from which to work.

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At semimonthly fire drills students are in charge of specific duties. Members of the patrols have assignments, such as holding open doors, removing door mats from doorways, checking each room including lavatories, libraries, assembly rooms, offices, etc., to make sure everyone is evacuated. Each physically handicapped child is assigned to a particular patrol member for care at time of fire drills. A record is made of each drill and copy sent to this department. Our office works with each school to change or correct methods of evacuation if necessary to improve the effectiveness of their drills.

Benjamin F. Prall, Chief, Elmira, N. Y.: Twice a year, we inspect public and private schools on a regular city-wide inspection basis. This is done again for the State of New York. The inspection blanks go into the New York State Division of Safety. The Division of Safety orders the school board to make any needed corrections, and notifies the fire department thereof, so we can recheck and see that corrections are made. This seems more effective than local corrective measures. Our local fire prevention code gives us legal authority to make these inspections and order any violations corrected. Our local fire prevention inspector also sends letters to the principal of any school where violations are found. The parochial schools are also inspected under the state law and the findings come back to them from the state.

We also inspect private schools and nursery schools. Private schools are under state laws; nursery schools are under local laws.

We do not require automatic sprinklers

NEXT MONTH'S QUESTIONS

- Do your department regulations forbid members from engaging in outside employment?
- If so, do you believe the rules should be modified to permit such work? If not, do you believe the rules should and can be changed to increase control over such activities?
- In the event a fire fighter is injured while engaged in off-time employment, do you believe his pension or other benefits may be impaired in any manner?
- Do you believe legal action against a fireman for outside work activities may jeopardize his position with the department?
- Do you believe that better department conditions in regard to salary and working hours will eliminate multiple job holding by firemen?

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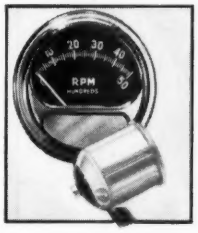

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We permit smoking in teachers' lounge rooms.

Two classes are held in the nine-month school term. Teachers and other personnel are given instructions on how to turn in alarms, the use of fire extinguishers, and other general fire prevention information.

Harold J. Kane, Chief, Paterson, N. J.: We regularly schedule public and private school fire prevention inspections. We do not have legal authority to do so. However, school officials, both public and parochial, have been completely cooperative. About $300,000 has been spent since the Chicago school fire for improvements for fire safety.

Four of the older schools have been sprinklered on recommendation.

A voluntary, long-range plan of connecting school alarm systems to fire alarm headquarters is in progress for existing schools; all new schools are required to be connected.

We permit smoking in the teachers' lounge rooms.

We do not have a program for instructing teachers and custodial help in the rudiments of fire protection. □□

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Blaze Creates Own FP Story for Newspaper

Instead of fire reporters seeking information about fires, the tables were turned during Fire Prevention Week in Bridgeport, Conn., when firefighters in that city sped to the four-story plant of the Post-Telegram on October 12.

An accumulation of soot and newspaper ink had ignited in a vent, which leads to the roof from the second floor stereotyping department, causing heavy smoke atop the building. A passerby first noticed the smoke belching forth and sounded an alarm from a nearby street box. Damage was slight.

One rookie firefighter walked into the editorial rooms after the fire and was heard to remark: "So this is where they write all the nice things about us!"

Tom Magner

HOSPITAL FIRE SAFETY

Continued from page 211

As far as possible, nothing is left to chance or on-the-spot planning. The Montebello plan attempts to prepare for any fire in the hospital. A section devoted to organization details the duties of the management safety committee, those of department heads and supervisors, and the duties of all employees.

Under "Fire Control Procedures," the booklet gives a brief, clear definition of the three classes of fires, the three types of extinguishers, and tells which to use on each type of fire.

Evacuation is then defined. It is noted that hospital evacuation is an entirely different process than is recommended for schools and factories. Leaving the hospital is the very last resort, while in other occupancies the objective is to clear the building as quickly as possible. Familiarity with several types of evacuation is described as a necessity in any hospital.

The booklet then gives instructions for partial evacuation, horizontal evacuation, total evacuation and emergency removal. It concludes with information on bed fires. □□

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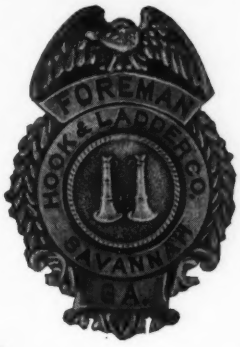

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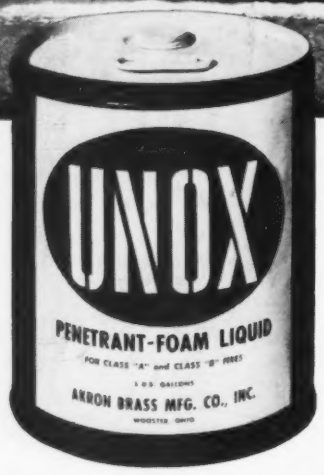

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